# STIC Search Report
## Biotech-Chem Library

STIC Database Tracking Number: 172817

| | |
|---|---|
| **TO: Timothy M Brown**<br>**Location: REM/3C31/3C18**<br>**Art Unit: 1648**<br>**Tuesday, December 06, 2005**<br><br>**Case Serial Number: 10/622124** | **From: Edward Hart**<br>**Location: Biotech-Chem Library**<br>**REM-1A55**<br>**Phone: 571-272-2512**<br><br>**edward.hart@uspto.gov** |

## Search Notes

Examiner Brown,

Here are the results of the search you requested.

Please feel free to contact me if you have any questions.

Edward Hart

GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: December 3, 2005, 13:04:21 ; Search time 233 Seconds
(without alignments)
84.785 Million cell updates/sec

Title: US-10-622-124-31
Perfect score: 145
Sequence: 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_05.80:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 145 | 100.0 | 91 | 2 | Q86YP8_HUMAN | Q86yp8 homo sapien |
| 2 | 145 | 100.0 | 117 | 1 | GHRL_HUMAN | Q9ubu3 homo sapien |
| 3 | 142 | 97.9 | 117 | 1 | GHRL_FELCA | Q6beg6 felis silve |
| 4 | 141 | 97.2 | 117 | 2 | Q6UDE7_MACMU | Q6ude7 macaca mula |
| 5 | 139 | 95.9 | 117 | 1 | GHRL_CANFA | Q9bef8 canis famil |
| 6 | 138 | 95.2 | 86 | 2 | Q811T4_MOUSE | Q811t4 mus musculu |
| 7 | 138 | 95.2 | 117 | 1 | GHRL_MOUSE | Q9eqx0 mus musculu |
| 8 | 138 | 95.2 | 117 | 1 | GHRL_RAT | Q9qyh7 rattus norv |
| 9 | 138 | 95.2 | 117 | 2 | Q8CH53_MERUN | Q8ch53 meriones un |
| 10 | 130 | 89.7 | 65 | 2 | Q6TGF0_PIG | Q6tgf0 sus scrofa |
| 11 | 130 | 89.7 | 74 | 2 | Q67BB5_PIG | Q67bb5 sus scrofa |
| 12 | 130 | 89.7 | 118 | 1 | GHRL_PIG | Q9gky5 sus scrofa |
| 13 | 101.5 | 70.0 | 54 | 2 | Q6SLG5_KOGBR | Q6slg5 kogia brevi |
| 14 | 101.5 | 70.0 | 54 | 2 | Q6SLG7_BOVIN | Q6slg7 bos taurus |
| 15 | 101.5 | 70.0 | 116 | 1 | GHRL_BOVIN | Q9bdj6 bos taurus |
| 16 | 99.5 | 68.6 | 52 | 2 | Q6SLF9_9CETA | Q6slf9 odocoileus |
| 17 | 99.5 | 68.6 | 54 | 2 | Q6SLF2_ODOHE | Q6slf2 odocoileus |
| 18 | 99.5 | 68.6 | 54 | 2 | Q6SLF6_CEREL | Q6slf6 cervus elap |
| 19 | 99.5 | 68.6 | 54 | 2 | Q6SLF8_RANTA | Q6slf8 rangifer ta |
| 20 | 99.5 | 68.6 | 54 | 2 | Q6SLG1_CAPHI | Q6slg1 capra hircu |
| 21 | 99.5 | 68.6 | 54 | 2 | Q6SLG3_SHEEP | Q6slg3 ovis aries |
| 22 | 99.5 | 68.6 | 54 | 2 | Q6SPC2_BISBI | Q6spc2 bison bison |
| 23 | 99.5 | 68.6 | 97 | 2 | Q863C6_SHEEP | Q863c6 ovis aries |
| 24 | 99.5 | 68.6 | 116 | 1 | GHRL_CAPHI | Q6beg7 capra hircu |
| 25 | 99.5 | 68.6 | 116 | 2 | Q863L0_SHEEP | Q863l0 ovis aries |
| 26 | 96.5 | 66.6 | 54 | 2 | Q6SLF4_9CETA | Q6slf4 alces alces |
| 27 | 94 | 64.8 | 116 | 2 | Q7T1B9_MELGA | Q7t1b9 meleagris g |
| 28 | 91 | 62.8 | 116 | 2 | Q6VMJ5_DRONO | Q6vmj5 dromaius no |
| 29 | 85 | 58.6 | 116 | 2 | Q7T2V1_CHICK | Q7t2v1 gallus gall |
| 30 | 85 | 58.6 | 116 | 2 | Q8AV73_CHICK | Q8av73 gallus gall |
| 31 | 81.5 | 56.2 | 35 | 2 | Q6SPC3_ANTAM | Q6spc3 antilocapra |
| 32 | 78 | 53.8 | 114 | 2 | Q6F4B4_TRASC | Q6f4b4 trachemys s |
| 33 | 78 | 53.8 | 124 | 2 | Q6F4B3_TRASC | Q6f4b3 trachemys s |
| 34 | 73 | 50.3 | 116 | 2 | Q6VMJ6_ANAPL | Q6vmj6 anas platyr |
| 35 | 73 | 50.3 | 116 | 2 | Q6VMJ7_9AVES | Q6vmj7 anser sp. ( |
| 36 | 67 | 46.2 | 36 | 2 | Q5Y392_HUMAN | Q5y392 homo sapien |
| 37 | 60 | 41.4 | 78 | 2 | Q7TSD1_MOUSE | Q7tsd1 mus musculu |
| 38 | 58 | 40.0 | 194 | 2 | Q5GYB2_XANOR | Q5gyb2 xanthomonas |
| 39 | 58 | 40.0 | 267 | 2 | Q8BZP7_MOUSE | Q8bzp7 mus musculu |
| 40 | 58 | 40.0 | 309 | 2 | Q5H4X5_XANOR | Q5h4x5 xanthomonas |
| 41 | 58 | 40.0 | 379 | 2 | Q5H202_XANOR | Q5h202 xanthomonas |
| 42 | 58 | 40.0 | 410 | 2 | Q5H562_XANOR | Q5h562 xanthomonas |
| 43 | 58 | 40.0 | 430 | 2 | Q5H1Q5_XANOR | Q5h1q5 xanthomonas |
| 44 | 58 | 40.0 | 432 | 2 | Q5H3Q4_XANOR | Q5h3q4 xanthomonas |
| 45 | 58 | 40.0 | 434 | 2 | Q5H293_XANOR | Q5h293 xanthomonas |

ALIGNMENTS

RESULT 1
Q86YP8_HUMAN
ID Q86YP8_HUMAN PRELIMINARY; PRT; 91 AA.
AC Q86YP8;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Exon 3-deleted preproghrelin variant.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA Jeffery P.L., Herington A.C., Chopin L.K.;
RL Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AY184207; AAO27351.1; -; mRNA.
DR Ensembl; ENSG00000157017; Homo sapiens.
DR GO; GO:0005576; C:extracellular region; IEA.
DR GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR GO; GO:0050791; P:regulation of physiological process; IEA.
DR InterPro; IPR006738; motilin_ghrelin.
DR InterPro; IPR005441; Preproghrelin.
DR PANTHER; PTHR14122; Preproghrelin; 1.
DR Pfam; PF04644; Motilin_ghrelin; 1.
DR PRINTS; PR01624; GHRELIN.
SQ SEQUENCE 91 AA; 9972 MW; E7E532D32A3F8609 CRC64;

Query Match 100.0%; Score 145; DB 2; Length 91;
Best Local Similarity 100.0%; Pred. No. 1e-11;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
||||||||||||||||||||||||||||
Db 24 GSSFLSPEHQRVQQRKESKKPPAKLQPR 51

RESULT 2
GHRL_HUMAN
ID GHRL_HUMAN STANDARD; PRT; 117 AA.
AC Q9UBU3; Q8TAT9; Q9H3R3;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE releasing peptide) (Motilin-related peptide) (M46 protein) [Contains:
DE Ghrelin-27; Ghrelin-28 (Ghrelin)].
GN Name=GHRL; Synonyms=MTLRP; ORFNames=UNQ524/PRO1066;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;

```
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORM 1), AND ACYLATION OF SER-26.
RC   TISSUE=Stomach;
RX   MEDLINE=20067959; PubMed=10604470; DOI=10.1038/45230;
RA   Kojima M., Hosoda H., Date Y., Nakazato M., Matsuo H., Kangawa K.;
RT   "Ghrelin is a growth-hormone-releasing acylated peptide from
RT   stomach.";
RL   Nature 402:656-660(1999).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORM 1), AND PROTEIN SEQUENCE OF 24-33.
RC   TISSUE=Stomach;
RX   MEDLINE=20389976; PubMed=10930375;
RA   Tomasetto C., Karam S.M., Ribieras S., Masson R., Lefebvre O.,
RA   Staub A., Alexander G., Chenard M.-P., Rio M.-C.;
RT   "Identification and characterization of a novel gastric peptide
RT   hormone: the motilin-related peptide.";
RL   Gastroenterology 119:395-405(2000).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Wajnrajch M.P., Ten I.S., Gertner J.M., Leibel R.L.;
RT   "Genomic organization of the human Ghrelin gene.";
RL   J. Endocr. Genet. 1:231-233(2000).
RN   [4]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORM 2), TISSUE SPECIFICITY, ACYLATION
RP   OF SER-26, AND MASS SPECTROMETRY.
RC   TISSUE=Stomach;
RX   PubMed=12414809; DOI=10.1074/jbc.M205366200;
RA   Hosoda H., Kojima M., Mizushima T., Shimizu S., Kangawa K.;
RT   "Structural divergence of human ghrelin. Identification of multiple
RT   ghrelin-derived molecules produced by post-translational processing.";
RL   J. Biol. Chem. 278:64-70(2003).
RN   [5]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 1).
RX   MEDLINE=22887296; PubMed=12975309; DOI=10.1101/gr.1293003;
RA   Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D.T., Brush J.,
RA   Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P.,
RA   Eaton D., Foster J.S., Grimaldi C., Gu Q., Hass P.E., Heldens S.,
RA   Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J.,
RA   Lewis L., Liao D., Mark M.R., Robbie E., Sanchez C., Schoenfeld J.,
RA   Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A.,
RA   Vandlen R.L., Watanabe C., Wieand D., Woods K., Xie M.-H.,
RA   Yansura D.G., Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A.D.,
RA   Wood W.I., Godowski P.J., Gray A.M.;
RT   "The secreted protein discovery initiative (SPDI), a large-scale
RT   effort to identify novel human secreted and transmembrane proteins: a
RT   bioinformatics assessment.";
RL   Genome Res. 13:2265-2270(2003).
RN   [6]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 1).
RC   TISSUE=Blood;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [7]
RP   PROTEIN SEQUENCE OF 24-38.
RX   PubMed=15340161; DOI=10.1110/ps.04682504;
RA   Zhang Z., Henzel W.J.;
RT   "Signal peptide prediction based on analysis of experimentally
RT   verified cleavage sites.";
RL   Protein Sci. 13:2819-2824(2004).
RN   [8]
RP   REVIEW.
RX   MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;
RA   Kojima M., Hosoda H., Matsuo H., Kangawa K.;
RT   "Ghrelin: discovery of the natural endogenous ligand for the growth
RT   hormone secretagogue receptor.";
RL   Trends Endocrinol. Metab. 12:118-122(2001).
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9UBU3-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9UBU3-2; Sequence=VSP_003245;
CC   -!- TISSUE SPECIFICITY: Highest level in stomach. All forms are found
CC       in serum as well. Other tissues compensate for the loss of ghrelin
CC       synthesis in the stomach following gastrectomy.
CC   -!- PTM: O-n-octanoylation is essential for activity. The O-n-
CC       decanoylated forms Ghrelin-27-C10 and Ghrelin-28-C10 differ in the
CC       length of the carbon backbone of the carboxylic acid bound to Ser-
CC       26. A small fraction of ghrelin, ghrelin-28-C10:1, may be modified
CC       with an unsaturated carboxylic acid.
CC   -!- MASS SPECTROMETRY: MW=3398.9; MW_ERR=0.3; METHOD=Electrospray;
CC       RANGE=24-51 (Ghrelin-28-C10); NOTE=O-decanoylated form (Ref.4).
CC   -!- MASS SPECTROMETRY: MW=3397.2; MW_ERR=0.5; METHOD=Electrospray;
CC       RANGE=24-51 (Ghrelin-28-C10:1); NOTE=O-decenoylated form (Ref.4).
CC   -!- MASS SPECTROMETRY: MW=3371.3; MW_ERR=0.1; METHOD=Electrospray;
CC       RANGE=24-51 (Ghrelin-28); NOTE=O-octanoylated form (Ref.4).
CC   -!- MASS SPECTROMETRY: MW=3243.6; MW_ERR=0.4; METHOD=Electrospray;
CC       RANGE=24-50 (Ghrelin-27-C10); NOTE=O-decanoylated form (Ref.4).
CC   -!- MASS SPECTROMETRY: MW=3214.6; MW_ERR=0.6; METHOD=Electrospray;
CC       RANGE=24-50 (Ghrelin-27); NOTE=O-octanoylated form (Ref.4).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   -!- DATABASE: NAME=Atlas Genet. Cytogenet. Oncol. Haematol.;
CC       WWW="http://www.infobiogen.fr/services/chromcancer/Genes/GhrelinID327.html".
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB029434; BAA89371.1; -; mRNA.
DR   EMBL; AJ252278; CAB65733.1; -; mRNA.
DR   EMBL; AF296558; AAG10300.1; -; Genomic_DNA.
DR   EMBL; AB035700; BAB19045.1; -; mRNA.
DR   EMBL; AY359053; AAQ89412.1; -; mRNA.
DR   EMBL; BC025791; AAH25791.1; -; mRNA.
DR   PIR; A59316; A59316.
DR   PDB; 1P7X; Model; A=1-117.
DR   Ensembl; ENSG00000157017; Homo sapiens.
DR   H-InvDB; HIX0003050; -.
DR   MIM; 605353; -.
DR   GO; GO:0005615; C:extracellular space; ISS.
DR   GO; GO:0001664; F:G-protein-coupled receptor binding; ISS.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; ISS.
DR   GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; ISS.
DR   GO; GO:0050791; P:regulation of physiological process; ISS.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
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DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   3D-structure; Alternative splicing; Direct protein sequencing;
KW   Hormone; Lipoprotein; Signal.
FT   SIGNAL       1     23
FT   PEPTIDE      24    51       Ghrelin-28.
FT   PEPTIDE      24    50       Ghrelin-27.
FT   PROPEP       52    117      Removed in mature form.
FT   LIPID        26    26       O-decanoyl serine (in form ghrelin-27-C10
FT                               and form ghrelin-28-C10).
FT   LIPID        26    26       O-octanoyl serine (in form ghrelin-27 and
FT                               form ghrelin-28).
FT   VARSPLIC     37    37       Missing (in isoform 2).
FT                               /FTId=VSP_003245.
FT   CONFLICT     72    72       L -> M (in Ref. 6).
SQ   SEQUENCE   117 AA;  12911 MW;  39C0572EBECA2755 CRC64;

  Query Match             100.0%;  Score 145;  DB 1;  Length 117;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-11;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db         24 GSSFLSPEHQRVQQRKESKKPPAKLQPR 51


RESULT 3
GHRL_FELCA
ID   GHRL_FELCA     STANDARD;      PRT;   117 AA.
AC   Q6BEG6; Q6BEG5;
DT   25-OCT-2004 (Rel. 45, Created)
DT   25-OCT-2004 (Rel. 45, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide).
GN   Name=GHRL;
OS   Felis silvestris catus (Cat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;
OC   Felinae; Felis.
OX   NCBI_TaxID=9685;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORMS 1 AND 2).
RC   TISSUE=Stomach;
RA   Lin X., Miyazato M., Kaiya H., Ida T., Kangawa K.;
RT   "cDNA cloning of feline and caprine ghrelin.";
RL   Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q6BEG6-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q6BEG6-2; Sequence=VSP_011626;
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB089201; BAD34670.1; -; mRNA.
DR   EMBL; AB089202; BAD34671.1; -; mRNA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Hormone; Lipoprotein; Signal.
FT   SIGNAL       1     23       By similarity.
FT   PEPTIDE      24    51       Ghrelin (By similarity).
FT   PROPEP       52    117      Removed in mature form (By similarity).
FT   LIPID        26    26       O-octanoyl serine (By similarity).
FT   VARSPLIC     37    37       Missing (in isoform 2).
FT                               /FTId=VSP_011626.
SQ   SEQUENCE   117 AA;  12956 MW;  8235A51447FFF530 CRC64;

  Query Match             97.9%;  Score 142;  DB 1;  Length 117;
  Best Local Similarity   96.4%;  Pred. No. 3.4e-11;
  Matches   27;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||:||||||||||||||||||
Db         24 GSSFLSPEHQKVQQRKESKKPPAKLQPR 51


RESULT 4
Q6UDE7_MACMU
ID   Q6UDE7_MACMU PRELIMINARY;      PRT;   117 AA.
AC   Q6UDE7;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   01-FEB-2005 (TrEMBLrel. 29, Last annotation update)
DE   Ghrelin.
GN   Name=GHRL;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=14736731; DOI=10.1210/en.2003-1103;
RA   Angeloni S.V., Glynn N., Ambrosini G., Garant M.J., Dee Higley J.,
RA   Suomi S., Hansen B.C.;
RT   "Characterization of the rhesus monkey ghrelin gene and factors
RT   influencing ghrelin gene expression and fasting plasma levels.";
RL   Endocrinology 145:2197-2205(2004).
DR   EMBL; AY372274; AAQ74837.1; -; Genomic_DNA.
DR   EMBL; AY371699; AAQ74381.1; -; mRNA.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
SQ   SEQUENCE   117 AA;  12913 MW;  1B634ACE1E1F19FF CRC64;

  Query Match             97.2%;  Score 141;  DB 2;  Length 117;
  Best Local Similarity   96.4%;  Pred. No. 4.6e-11;
  Matches   27;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              |||||||||| ||||||||||||||||||
Db         24 GSSFLSPEHQRAQQRKESKKPPAKLQPR 51


RESULT 5
GHRL_CANFA
ID   GHRL_CANFA     STANDARD;      PRT;   117 AA.
```

```
AC   Q9BEF8; Q9BEF7;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide).
GN   Name=GHRL; Synonyms=MTLRP;
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
OC   Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORMS 1 AND 2).
RC   TISSUE=Gastric fundus;
RA   Tomasetto C., Wendling C., Rio M.-C., Poitras P.;
RT   "Identification of cDNA encoding MTLRP/ghrelin precursor from dog
RT   fundus.";
RL   Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORM 1).
RC   TISSUE=Stomach;
RA   Doi K., Kojima M., Hosoda H., Kaiya H., Matsuo H., Kangawa K.;
RT   "Dog ghrelin.";
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9BEF8-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9BEF8-2; Sequence=VSP_003244;
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AJ298295; CAC29155.1; -; mRNA.
DR   EMBL; AJ298296; CAC29156.1; -; mRNA.
DR   EMBL; AB060700; BAC75929.1; -; mRNA.
DR   Ensembl; ENSCAFG00000005129; Canis familiaris.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Hormone; Lipoprotein; Signal.
FT   SIGNAL       1     23       By similarity.
FT   PEPTIDE      24    51       Ghrelin (By similarity).
FT   PROPEP       52    117      Removed in mature form (By similarity).
FT   LIPID        26    26       O-octanoyl serine (By similarity).
FT   VARSPLIC     37    37       Missing (in isoform 2).
FT                               /FTId=VSP_003244.
SQ   SEQUENCE   117 AA;  13007 MW;  3E57FED9D1847CF7 CRC64;

  Query Match             95.9%;  Score 139;  DB 1;  Length 117;
  Best Local Similarity   92.9%;  Pred. No. 8.6e-11;
  Matches   26;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||::||||||||||||||||
Db         24 GSSFLSPEHQKLQQRKESKKPPAKLQPR 51


RESULT 6
Q811T4_MOUSE
ID   Q811T4_MOUSE PRELIMINARY;      PRT;    86 AA.
AC   Q811T4;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Exon 4-deleted preproghrelin variant.
GN   Name=Ghrl;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC   Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RC   STRAIN=Swiss;
RX   PubMed=15471962; DOI=10.1210/en.2003-1466;
RA   Jeffery P.L., Duncan R.P., Yeh A.H., Jaskolski R.A., Hammond D.S.,
RA   Herington A.C., Chopin L.K.;
RT   "Expression of the ghrelin axis in the mouse: an exon 4-deleted mouse
RT   proghrelin variant encodes a novel C terminal peptide.";
RL   Endocrinology 146:432-440(2005).
DR   EMBL; AY179430; AAO27350.1; -; mRNA.
DR   Ensembl; ENSMUSG00000064177; Mus musculus.
DR   MGI; MGI:1930008; Ghrl.
DR   GO; GO:0005737; C:cytoplasm; IDA.
DR   GO; GO:0005615; C:extracellular space; TAS.
DR   GO; GO:0005179; F:hormone activity; TAS.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
SQ   SEQUENCE   86 AA;  9758 MW;  B913858874770512 CRC64;

  Query Match             95.2%;  Score 138;  DB 2;  Length 86;
  Best Local Similarity   92.9%;  Pred. No. 8.4e-11;
  Matches   26;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||: ||||||||||||||||
Db         24 GSSFLSPEHQKAQQRKESKKPPAKLQPR 51


RESULT 7
GHRL_MOUSE
ID   GHRL_MOUSE     STANDARD;      PRT;   117 AA.
AC   Q9EQX0; Q9WUZ1;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide) (M46 protein).
GN   Name=Ghrl; Synonyms=Mtlrp;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC   Muroidea; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORMS 1 AND 2), PROTEIN SEQUENCE OF
RP   24-30, SUBCELLULAR LOCATION, AND TISSUE SPECIFICITY.
RC   TISSUE=Stomach;
RX   MEDLINE=20389976; PubMed=10930375;
RA   Tomasetto C., Karam S.M., Ribieras S., Masson R., Lefebvre O.,
RA   Staub A., Alexander G., Chenard M.-P., Rio M.-C.;
RT   "Identification and characterization of a novel gastric peptide
RT   hormone: the motilin-related peptide.";
RL   Gastroenterology 119:395-405(2000).
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RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORM 1).
RA   Kojima M.;
RT   "Mouse mRNA for preproghrelin.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA] (ISOFORM 1).
RA   Tanaka M., Hayashida Y., Iguchi T., Nakao N., Nakai N., Nakashima K.;
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 1).
RC   STRAIN=C57BL/6J; TISSUE=Stomach;
RX   MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
RA   Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
RA   Nikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.,
RA   Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T.,
RA   Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
RA   Schriml L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W.,
RA   Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,
RA   Dalla E., Dragani T.A., Fletcher C.F., Forrest A., Frazer K.S.,
RA   Gaasterland T., Gariboldi M., Gissi C., Godzik A., Gough J.,
RA   Grimmond S., Gustincich S., Hirokawa N., Jackson I.J., Jarvis E.D.,
RA   Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
RA   Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,
RA   Maglott D.R., Maltais L., Marchionni L., McKenzie L., Miki H.,
RA   Nagashima T., Numata K., Okido T., Pavan W.J., Pertea G., Pesole G.,
RA   Petrovsky N., Pillai R., Pontius J.U., Qi D., Ramachandran S.,
RA   Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M.,
RA   Sandelin A., Schneider C., Semple C.A., Setou M., Shimada K.,
RA   Sultana R., Takenaka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA   Verardo R., Wagner L., Wahlestedt C., Wang Y., Watanabe Y., Wells C.,
RA   Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Yang L.,
RA   Yuan Z., Zavolan M., Zhu Y., Zimmer A., Carninci P., Hayatsu N.,
RA   Hirozane-Kishikawa T., Konno H., Nakamura M., Sakazume N., Sato K.,
RA   Shiraki T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S.,
RA   Hara A., Hashizume W., Imotani K., Ishii Y., Itoh M., Kagawa I.,
RA   Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa A.,
RA   Yasunishi A., Yoshino M., Waterston R., Lander E.S., Rogers J.,
RA   Birney E., Hayashizaki Y.;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
RN   [5]
RP   DEVELOPMENTAL STAGE, AND ACYLATION OF SER-26.
RX   PubMed=15746259; DOI=10.1210/en.2004-0645;
RA   Nishi Y., Hiejima H., Mifune H., Sato T., Kangawa K., Kojima M.;
RT   "Developmental changes in the pattern of ghrelin's acyl modification
RT   and the levels of acyl-modified ghrelins in murine stomach.";
RL   Endocrinology 146:2709-2715(2005).
RN   [6]
RP   REVIEW.
RX   MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;
RA   Kojima M., Hosoda H., Matsuo H., Kangawa K.;
RT   "Ghrelin: discovery of the natural endogenous ligand for the growth
RT   hormone secretagogue receptor.";
RL   Trends Endocrinol. Metab. 12:118-122(2001).
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9EQX0-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9EQX0-2; Sequence=VSP_003246;
CC   -!- TISSUE SPECIFICITY: Mainly expressed in the gastrointestinal tract
CC       with higher levels in the stomach, medium levels in the duodenum,
CC       jejunum, ileum and colon. Low expression in the testis and brain.
CC       Not detected in the salivary gland, pancreas, liver and lung.
CC   -!- DEVELOPMENTAL STAGE: Levels of n-octanoylated and n-decanoylated
CC       ghrelin drop by one third and 3-fold, respectively, between
CC       postnatal weeks 3 and 4 due to change of diet during weaning.
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC       The O-n-decanoylated form ghrelin-C10 differs in the length of the
CC       carbon backbone of the carboxylic acid bound to Ser-26.
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------------
DR   EMBL; AJ243503; CAB46500.1; -; mRNA.
DR   EMBL; AB035701; BAB19046.1; -; mRNA.
DR   EMBL; AB060078; BAB69857.1; -; Genomic_DNA.
DR   EMBL; AK008658; BAB25814.1; -; mRNA.
DR   EMBL; AK008860; BAB25934.1; -; mRNA.
DR   Ensembl; ENSMUSG00000064177; Mus musculus.
DR   MGI; MGI:1930008; Ghrl.
DR   GO; GO:0005737; C:cytoplasm; IDA.
DR   GO; GO:0005615; C:extracellular space; TAS.
DR   GO; GO:0005179; F:hormone activity; TAS.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Direct protein sequencing; Hormone; Lipoprotein;
KW   Signal.
FT   SIGNAL       1     23
FT   PEPTIDE      24    51       Ghrelin.
FT   PROPEP       52    117      Removed in mature form (By similarity).
FT   LIPID        26    26       O-decanoyl serine (in form n-decanoyl
FT                               ghrelin).
FT   LIPID        26    26       O-octanoyl serine (in form n-octanoyl
FT                               ghrelin).
FT   VARSPLIC     37    37       Missing (in isoform 2).
FT                               /FTId=VSP_003246.
SQ   SEQUENCE   117 AA;  13207 MW;  EACB49D2E3CA7203 CRC64;

  Query Match             95.2%;  Score 138;  DB 1;  Length 117;
  Best Local Similarity   92.9%;  Pred. No. 1.2e-10;
  Matches   26;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||: ||||||||||||||||
Db         24 GSSFLSPEHQKAQQRKESKKPPAKLQPR 51


RESULT 8
GHRL_RAT
ID   GHRL_RAT       STANDARD;      PRT;   117 AA.
AC   Q9QYH7; Q9ET69;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide).
GN   Name=Ghrl;
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC   Muroidea; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORM 1), PROTEIN SEQUENCE OF 24-51,
RP   MASS SPECTROMETRY, AND ACYLATION OF SER-26.
RC   STRAIN=Sprague-Dawley; TISSUE=Stomach;
RX   MEDLINE=20067959; PubMed=10604470; DOI=10.1038/45230;
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RA   Kojima M., Hosoda H., Date Y., Nakazato M., Matsuo H., Kangawa K.;
RT   "Ghrelin is a growth-hormone-releasing acylated peptide from
RT   stomach.";
RL   Nature 402:656-660(1999).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORMS 1 AND 2), PROTEIN SEQUENCE OF
RP   24-51, MASS SPECTROMETRY, AND ACYLATION OF SER-26.
RC   STRAIN=Sprague-Dawley; TISSUE=Stomach;
RX   MEDLINE=20357315; PubMed=10801861; DOI=10.1074/jbc.M002784200;
RA   Hosoda H., Kojima M., Matsuo H., Kangawa K.;
RT   "Purification and characterization of rat des-Gln14-ghrelin, a second
RT   endogenous ligand for the growth hormone secretagogue receptor.";
RL   J. Biol. Chem. 275:21995-22000(2000).
RN   [3]
RP   CHARACTERIZATION.
RX   MEDLINE=21092536; PubMed=11162448; DOI=10.1006/bbrc.2000.4039;
RA   Hosoda H., Kojima M., Matsuo H., Kangawa K.;
RT   "Ghrelin and des-acyl ghrelin: two major forms of rat ghrelin peptide
RT   in gastrointestinal tissue.";
RL   Biochem. Biophys. Res. Commun. 279:909-913(2000).
RN   [4]
RP   STRUCTURE-ACTIVITY RELATIONSHIP.
RX   MEDLINE=21433488; PubMed=11549267; DOI=10.1006/bbrc.2001.5553;
RA   Matsumoto M., Hosoda H., Kitajima Y., Morozumi N., Minamitake Y.,
RA   Tanaka S., Matsuo H., Kojima M., Hayashi Y., Kangawa K.;
RT   "Structure-activity relationship of ghrelin: pharmacological study of
RT   ghrelin peptides.";
RL   Biochem. Biophys. Res. Commun. 287:142-146(2001).
RN   [5]
RP   REVIEW.
RX   MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;
RA   Kojima M., Hosoda H., Matsuo H., Kangawa K.;
RT   "Ghrelin: discovery of the natural endogenous ligand for the growth
RT   hormone secretagogue receptor.";
RL   Trends Endocrinol. Metab. 12:118-122(2001).
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9QYH7-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9QYH7-2; Sequence=VSP_003248;
CC   -!- TISSUE SPECIFICITY: Broadly expressed with higher expression in
CC       the stomach. Very low levels are detected in the hypothalamus,
CC       heart, lung, pancreas, intestine and adipose tissue.
CC   -!- PTM: O-n-octanoylation is essential for activity. The replacement
CC       of Ser-26 by aromatic tryptophan preserves ghrelin activity.
CC   -!- MASS SPECTROMETRY: MW=3314.9; MW_ERR=0.7; METHOD=Electrospray;
CC       RANGE=24-51 (Q9QYH7-1); NOTE=Ref.1.
CC   -!- MASS SPECTROMETRY: MW=3187.1; MW_ERR=0.6; METHOD=Electrospray;
CC       RANGE=24-50 (Q9QYH7-2); NOTE=Ref.2.
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB029433; BAA89370.1; -; mRNA.
DR   EMBL; AB035699; BAB11956.1; -; mRNA.
DR   PIR; B59316; B59316.
DR   Ensembl; ENSRNOG00000010349; Rattus norvegicus.
DR   RGD; 632283; Ghrl.
DR   GO; GO:0005615; C:extracellular space; IC.
DR   GO; GO:0001664; F:G-protein-coupled receptor binding; IPI.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IDA.
DR   GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; IDA.
DR   GO; GO:0050791; P:regulation of physiological process; NAS.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Direct protein sequencing; Hormone; Lipoprotein;
KW   Signal.
FT   SIGNAL        1     23
FT   PEPTIDE      24     51       Ghrelin.
FT   PROPEP       52    117       Removed in mature form.
FT   LIPID        26     26       O-octanoyl serine.
FT   VARSPLIC     37     37       Missing (in isoform 2).
FT                                /FTId=VSP_003248.
SQ   SEQUENCE   117 AA;  13176 MW;  8857546FE51A7691 CRC64;

  Query Match             95.2%;  Score 138;  DB 1;  Length 117;
  Best Local Similarity   92.9%;  Pred. No. 1.2e-10;
  Matches   26;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              |||||||||| |||||||||||||||||
Db         24 GSSFLSPEHQKAQQRKESKKPPAKLQPR 51


RESULT 9
Q8CH53_MERUN
ID   Q8CH53_MERUN PRELIMINARY;      PRT;   117 AA.
AC   Q8CH53;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Ghrelin preproprotein.
OS   Meriones unguiculatus (Mongolian jird) (Mongolian gerbil).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC   Muridae; Gerbillinae; Meriones.
OX   NCBI_TaxID=10047;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=14724148; DOI=10.1136/gut.2003.021568;
RA   Suzuki H., Masaoka T., Hosoda H., Ota T., Minegishi Y., Nomura S.,
RA   Kangawa K., Ishii H.;
RT   "Helicobacter pylori infection modifies gastric and plasma ghrelin
RT   dynamics in Mongolian gerbils.";
RL   Gut 53:187-194(2004).
DR   EMBL; AF442491; AAO06965.1; -; mRNA.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
SQ   SEQUENCE   117 AA;  13035 MW;  27657687FC026A74 CRC64;

  Query Match             95.2%;  Score 138;  DB 2;  Length 117;
  Best Local Similarity   92.9%;  Pred. No. 1.2e-10;
  Matches   26;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              |||||||||| |||||||||||||||||
Db         24 GSSFLSPEHQKTQQRKESKKPPAKLQPR 51


RESULT 10
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Q6TGF0_PIG
ID   Q6TGF0_PIG  PRELIMINARY;      PRT;    65 AA.
AC   Q6TGF0;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Ghrelin (Fragment).
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
OC   Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Liu D., Zhang Y., Zhang X., Yang G.;
RL   Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY422043; AAQ97622.1; -; Genomic_DNA.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
FT   NON_TER       1      1
FT   NON_TER      65     65
SQ   SEQUENCE   65 AA;  6979 MW;  55D3713C501444D5 CRC64;

  Query Match             89.7%;  Score 130;  DB 2;  Length 65;
  Best Local Similarity   89.3%;  Pred. No. 7.4e-10;
  Matches   25;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||:|||||||||| |||:||
Db         22 GSSFLSPEHQKVQQRKESKKPAAKLKPR 49


RESULT 11
Q67BB5_PIG
ID   Q67BB5_PIG  PRELIMINARY;      PRT;    74 AA.
AC   Q67BB5;
DT   25-OCT-2004 (TrEMBLrel. 28, Created)
DT   25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
DT   25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
DE   Ghrelin (Fragment).
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
OC   Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Kim K.-S., Rothschild M.F.;
RT   "Pig Ghrelin.";
RL   Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY373019; AAR24571.1; -; Genomic_DNA.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
FT   NON_TER      74     74
SQ   SEQUENCE   74 AA;  7980 MW;  875424C2D41FC166 CRC64;

  Query Match             89.7%;  Score 130;  DB 2;  Length 74;
  Best Local Similarity   89.3%;  Pred. No. 8.5e-10;
  Matches   25;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||:|||||||||| |||:||
Db         25 GSSFLSPEHQKVQQRKESKKPAAKLKPR 52


RESULT 12
GHRL_PIG
ID   GHRL_PIG       STANDARD;      PRT;   118 AA.
AC   Q9GKY5; Q9BDG8; Q9GKY4;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide).
GN   Name=GHRL;
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
OC   Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORMS 1 AND 2).
RA   Kojima M.;
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA] (ISOFORMS 1 AND 2).
RC   TISSUE=Stomach;
RA   Rousselle J., Lacroix D., Dubreuil P.;
RL   Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=Ghrelin;
CC         IsoId=Q9GKY5-1; Sequence=Displayed;
CC       Name=2; Synonyms=del-Gln14-ghrelin;
CC         IsoId=Q9GKY5-2; Sequence=VSP_003247;
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB035703; BAB19048.1; -; mRNA.
DR   EMBL; AB035704; BAB19049.1; -; mRNA.
DR   EMBL; AF308930; AAK19243.1; -; mRNA.
DR   EMBL; AY028942; AAK30002.1; -; mRNA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Alternative splicing; Hormone; Lipoprotein; Signal.
FT   SIGNAL        1     24       By similarity.
FT   PEPTIDE      25     52       Ghrelin.
FT   PROPEP       53    118       Removed in mature form (By similarity).
FT   LIPID        27     27       O-octanoyl serine (By similarity).
FT   VARSPLIC     38     38       Missing (in isoform 2).
FT                                /FTId=VSP_003247.
FT   CONFLICT     17     17       L -> P (in Ref. 2; AAK30002).
FT   CONFLICT     72     72       K -> E (in Ref. 2; AAK30002).
SQ   SEQUENCE   118 AA;  12786 MW;  856D3E1D6DAB1A76 CRC64;

  Query Match             89.7%;  Score 130;  DB 1;  Length 118;
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  Best Local Similarity   89.3%;  Pred. No. 1.4e-09;
  Matches   25;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||:|||||||||| |||:||
Db         25 GSSFLSPEHQKVQQRKESKKPAAKLKPR 52


RESULT 13
Q6SLG5_KOGBR
ID   Q6SLG5_KOGBR PRELIMINARY;      PRT;    54 AA.
AC   Q6SLG5;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Ghrelin (Fragment).
OS   Kogia breviceps (Pygmy sperm whale).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Cetacea;
OC   Odontoceti; Physeteridae; Kogia.
OX   NCBI_TaxID=27615;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Dickin J.C., Thue T.D., Buchanan F.C.;
RL   Submitted (OCT-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY455981; AAS67347.1; -; Genomic_DNA.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
FT   NON_TER       1      1
FT   NON_TER      54     54
SQ   SEQUENCE   54 AA;  5998 MW;  777E30E0F33E472E CRC64;

  Query Match             70.0%;  Score 101.5;  DB 2;  Length 54;
  Best Local Similarity   71.4%;  Pred. No. 4.1e-06;
  Matches   20;  Conservative    5;  Mismatches    2;  Indels    1;  Gaps    1;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||:: ||||:|||  :|:||
Db         18 GSSFLSPEHQKL-QRKEAKKPSGRLKPR 44


RESULT 14
Q6SLG7_BOVIN
ID   Q6SLG7_BOVIN PRELIMINARY;      PRT;    54 AA.
AC   Q6SLG7;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Ghrelin (Fragment).
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
OC   Pecora; Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15373749; DOI=10.1111/j.1365-2052.2004.01175.x;
RA   Dickin J.C., Thue T.D., Buchanan F.C.;
RT   "An alternative splice site in ghrelin is missing in ruminants.";
RL   Anim. Genet. 35:411-412(2004).
DR   EMBL; AY455979; AAS67345.1; -; Genomic_DNA.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR   GO; GO:0050791; P:regulation of physiological process; IEA.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
FT   NON_TER       1      1
FT   NON_TER      54     54
SQ   SEQUENCE   54 AA;  5998 MW;  777E30E0F33E472E CRC64;

  Query Match             70.0%;  Score 101.5;  DB 2;  Length 54;
  Best Local Similarity   71.4%;  Pred. No. 4.1e-06;
  Matches   20;  Conservative    5;  Mismatches    2;  Indels    1;  Gaps    1;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||:: ||||:|||  :|:||
Db         18 GSSFLSPEHQKL-QRKEAKKPSGRLKPR 44


RESULT 15
GHRL_BOVIN
ID   GHRL_BOVIN     STANDARD;      PRT;   116 AA.
AC   Q9BDJ6; Q9GKY6;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE   releasing peptide) (Motilin-related peptide).
GN   Name=GHRL;
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
OC   Pecora; Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RA   Kita K., Harada K., Yokota H.;
RL   Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA] OF 24-99.
RA   Kojima M.;
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC       receptor type 1 (GHSR) inducing the release of growth hormone from
CC       the pituitary. Has an appetite-stimulating effect, induces
CC       adiposity and stimulates gastric acid secretion. Involved in
CC       growth regulation (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
CC   -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC   -!- SIMILARITY: Belongs to the motilin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF350329; AAK18612.1; -; mRNA.
DR   EMBL; AB035702; BAB19047.1; -; mRNA.
DR   InterPro; IPR006737; motilin_assoc.
DR   InterPro; IPR006738; motilin_ghrelin.
DR   InterPro; IPR005441; Preproghrelin.
DR   PANTHER; PTHR14122; Preproghrelin; 1.
DR   Pfam; PF04643; Motilin_assoc; 1.
DR   Pfam; PF04644; Motilin_ghrelin; 1.
DR   PRINTS; PR01624; GHRELIN.
DR   ProDom; PD332162; Preproghrelin; 1.
KW   Hormone; Lipoprotein; Signal.
FT   SIGNAL        1     23       By similarity.
FT   PEPTIDE      24     50       Ghrelin (By similarity).
FT   PROPEP       51    116       Removed in mature form (By similarity).
FT   LIPID        26     26       O-octanoyl serine (By similarity).
FT   CONFLICT     34     34       K -> E (in Ref. 2).
SQ   SEQUENCE   116 AA;  12793 MW;  F55536DAC5FA59B6 CRC64;

  Query Match             70.0%;  Score 101.5;  DB 1;  Length 116;
  Best Local Similarity   71.4%;  Pred. No. 9.4e-06;
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Matches 20; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

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Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||:: |||:|||  :|:||
Db         24 GSSFLSPEHQKL-QRKEAKKPSGRLKPR 50
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Search completed: December 3, 2005, 13:24:08
Job time : 234 secs

GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: December 3, 2005, 13:14:01 ; Search time 38 Seconds
(without alignments)
70.897 Million cell updates/sec

Title: US-10-622-124-31
Perfect score: 145
Sequence: 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 145 | 100.0 | 117 | 1 | A59316 | ghrelin precursor |
| 2 | 138 | 95.2 | 117 | 1 | B59316 | ghrelin precursor |
| 3 | 55 | 37.9 | 417 | 2 | F90498 | permease [imported |
| 4 | 54 | 37.2 | 516 | 2 | C72367 | oligopeptide ABC t |
| 5 | 53 | 36.6 | 1732 | 2 | T14039 | protein kinase (EC |
| 6 | 52.5 | 36.2 | 1093 | 2 | A47212 | transcription fact |
| 7 | 52 | 35.9 | 309 | 2 | S08343 | nodulin precursor |
| 8 | 51 | 35.2 | 128 | 2 | C42825 | Kruppel-type zinc |
| 9 | 51 | 35.2 | 304 | 1 | W4WL47 | E4 protein - human |
| 10 | 51 | 35.2 | 858 | 2 | T00258 | hypothetical prote |
| 11 | 50 | 34.5 | 508 | 2 | A33378 | fasciclin III prec |
| 12 | 50 | 34.5 | 716 | 2 | G01627 | androgen receptor |
| 13 | 49.5 | 34.1 | 3938 | 2 | T42761 | Bassoon protein - |
| 14 | 49.5 | 34.1 | 3942 | 2 | T42730 | Bassoon protein - |
| 15 | 49 | 33.8 | 287 | 2 | S45085 | hypothetical prote |
| 16 | 49 | 33.8 | 783 | 2 | S51968 | probable membrane |
| 17 | 49 | 33.8 | 1702 | 2 | T14050 | protein kinase (EC |
| 18 | 48.5 | 33.4 | 1234 | 2 | T30160 | hypothetical prote |
| 19 | 48.5 | 33.4 | 2342 | 2 | T13412 | hypothetical prote |
| 20 | 48 | 33.1 | 412 | 2 | A55320 | immunophilin FKBP4 |
| 21 | 48 | 33.1 | 805 | 2 | T21957 | hypothetical prote |
| 22 | 48 | 33.1 | 1442 | 2 | C82898 | DNA polymerase III |
| 23 | 47.5 | 32.8 | 766 | 2 | G71160 | probable histidine |
| 24 | 47.5 | 32.8 | 962 | 2 | C81060 | translation initia |
| 25 | 47.5 | 32.8 | 962 | 2 | A81817 | translation initia |
| 26 | 47 | 32.4 | 379 | 2 | S42529 | Opaque-2-related p |
| 27 | 47 | 32.4 | 408 | 2 | S42493 | opaque 2 protein - |
| 28 | 47 | 32.4 | 419 | 2 | S56073 | opaque-2 protein - |
| 29 | 47 | 32.4 | 437 | 2 | A34800 | Opaque-2 protein - |
| 30 | 47 | 32.4 | 445 | 2 | S23056 | Slp2 protein - fru |
| 31 | 47 | 32.4 | 460 | 2 | S06022 | regulatory protein |
| 32 | 47 | 32.4 | 484 | 2 | T18007 | hypothetical prote |
| 33 | 47 | 32.4 | 550 | 2 | C86704 | conserved hypothet |
| 34 | 47 | 32.4 | 562 | 2 | T34319 | hypothetical prote |
| 35 | 47 | 32.4 | 874 | 1 | QQBE15 | BSLF1 protein - hu |
| 36 | 47 | 32.4 | 927 | 2 | A48085 | transcription fact |
| 37 | 47 | 32.4 | 989 | 2 | T48845 | insulin II gene en |
| 38 | 47 | 32.4 | 1225 | 2 | T18954 | hypothetical prote |
| 39 | 47 | 32.4 | 1307 | 2 | T25563 | hypothetical prote |
| 40 | 47 | 32.4 | 1400 | 2 | T52359 | hypothetical prote |
| 41 | 46.5 | 32.1 | 239 | 2 | D84004 | hypothetical prote |
| 42 | 46.5 | 32.1 | 981 | 1 | FOMVGM | gag-abl polyprotei |
| 43 | 46.5 | 32.1 | 1091 | 2 | T34247 | hypothetical prote |
| 44 | 46.5 | 32.1 | 1107 | 2 | T34246 | hypothetical prote |
| 45 | 46.5 | 32.1 | 1123 | 2 | A39962 | kinase-related tra |

ALIGNMENTS

RESULT 1
A59316
ghrelin precursor - human
N;Alternate names: preproghrelin
C;Species: Homo sapiens (man)
C;Date: 16-Jun-2000 #sequence_revision 16-Jun-2000 #text_change 09-Jul-2004
C;Accession: A59316
R;Kojima, M.; Hosoda, H.; Date, Y.; Nakazato, M.; Matsuo, H.; Kangawa, K.
Nature 402, 656-660, 1999
A;Title: Ghrelin is a growth-hormone-releasing acylated peptide from stomach.
A;Reference number: A59316; MUID:20067959; PMID:10604470
A;Accession: A59316
A;Status: not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-117 <KOJ>
A;Cross-references: UNIPROT:Q9UBU3; UNIPARC:UPI00000362D3; GB:AB029434; NID:g6691571; PI
A;Experimental source: tissue stomach endocrine cells
A;Note: submitted to GenBank, June 1999
C;Comment: Ghrelin secreted by the stomach stimulates the release of somatotropin (growt
C;Superfamily: motilin
C;Keywords: hormone; lipoprotein; stomach
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-51/Product: ghrelin #status predicted <MAT>
F;52-117/Domain: carboxyl-terminal propeptide #status predicted <CTP>
F;26/Binding site: octanoate (Ser) (covalent) #status experimental

Query Match 100.0%; Score 145; DB 1; Length 117;
Best Local Similarity 100.0%; Pred. No. 1.5e-12;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db         24 GSSFLSPEHQRVQQRKESKKPPAKLQPR 51
```

RESULT 2
B59316
ghrelin precursor - rat
N;Alternate names: preproghrelin
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Jun-2000 #sequence_revision 16-Jun-2000 #text_change 09-Jul-2004
C;Accession: B59316
R;Kojima, M.; Hosoda, H.; Date, Y.; Nakazato, M.; Matsuo, H.; Kangawa, K.
Nature 402, 656-660, 1999
A;Title: Ghrelin is a growth-hormone-releasing acylated peptide from stomach.
A;Reference number: A59316; MUID:20067959; PMID:10604470
A;Accession: B59316
A;Status: not compared with conceptual translation
A;Molecule type: mRNA; protein
A;Residues: 1-117 <KOJ>
A;Cross-references: UNIPROT:Q9QYH7; UNIPARC:UPI000012B411; GB:AB029433; NID:g6691569; PI
A;Experimental source: strain SD; tissue stomach endocrine cells

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A;Note: submitted to GenBank, June 1999
C;Comment: Ghrelin secreted by the stomach stimulates the release of somatotropin (growt
C;Superfamily: motilin
C;Keywords: hormone; lipoprotein; stomach
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-51/Product: ghrelin #status predicted <MAT>
F;52-117/Domain: carboxyl-terminal propeptide #status predicted <CTP>
F;26/Binding site: octanoate (Ser) (covalent) #status experimental

  Query Match             95.2%;  Score 138;  DB 1;  Length 117;
  Best Local Similarity   92.9%;  Pred. No. 1.3e-11;
  Matches   26;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              |||||||||| |||||||||||||||||
Db         24 GSSFLSPEHQKAQQRKESKKPPAKLQPR 51


RESULT 3
F90498
permease [imported] - Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 09-Jul-2004
C;Accession: F90498
R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-
 Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, P
arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J.
submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
A;Reference number: A99139
A;Accession: F90498
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-417 <KUR>
A;Cross-references: UNIPROT:Q97U76; UNIPARC:UPI0000064989; GB:AE006641; NID:g13816571; P
C;Genetics:
A;Gene: SSO3147

  Query Match             37.9%;  Score 55;  DB 2;  Length 417;
  Best Local Similarity   54.5%;  Pred. No. 7.8;
  Matches   12;  Conservative    2;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          4 FLSPEHQRVQQRKESKKPPAKL 25
              || ||  | :: ||  | ||||
Db        198 FLMPESLRFRRNKERVKSPAKL 219


RESULT 4
C72367
oligopeptide ABC transporter, permease protein - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Accession: C72367
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hickey
Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson, D.;
 C.M.
Nature 399, 323-329, 1999
A;Title: Evidence for lateral gene transfer between Archaea and Bacteria from genome seq
A;Reference number: A72200; MUID:99287316; PMID:10360571
A;Accession: C72367
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-516 <ARN>
A;Cross-references: UNIPROT:Q9WZ03; UNIPARC:UPI00000D39E2; GB:AE001728; GB:AE000512; NID
A;Experimental source: strain MSB8
C;Genetics:
A;Gene: TM0533

  Query Match             37.2%;  Score 54;  DB 2;  Length 516;
  Best Local Similarity   45.8%;  Pred. No. 13;
  Matches   11;  Conservative    2;  Mismatches   11;  Indels    0;  Gaps    0;

Qy          2 SSFLSPEHQRVQQRKESKKPPAKL 25
              : |||| |   |  | |  || |:
Db         53 ADFLSPHHPYEQSLKHSFAPPTKI 76


RESULT 5
T14039
protein kinase (EC 2.7.1.37), myotonic dystrophy-associated - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 05-Oct-2004
C;Accession: T14039
R;Leung, T.; Chen, X.Q.; Tan, I.; Manser, E.; Lim, L.
Mol. Cell. Biol. 18, 130-140, 1998
A;Title: Myotonic dystrophy kinase-related Cdc42-binding kinase acts as a Cdc42 effector
A;Reference number: Z17862; MUID:98078670; PMID:9418861
A;Accession: T14039
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-1732 <LEU>
A;Cross-references: UNIPROT:O54874; UNIPARC:UPI00000E7E1A; EMBL:AF021935; NID:g2736150;
C;Genetics:
A;Gene: MRCK
C;Keywords: ATP; phosphotransferase
F;75-343/Domain: protein kinase homology <KIN>
F;1013-1062/Domain: protein kinase C zinc-binding repeat homology <KZN>

  Query Match             36.6%;  Score 53;  DB 2;  Length 1732;
  Best Local Similarity   50.0%;  Pred. No. 62;
  Matches   10;  Conservative    4;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          3 SFLSPEHQRVQQRKESKKPP 22
              ||  || :|:|||:|  : |
Db       1545 SFRVPEEERMQQRREMLRDP 1564


RESULT 6
A47212
transcription factor TMF, TATA element modulatory factor - human
C;Species: Homo sapiens (man)
C;Date: 22-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: A47212
R;Garcia, J.A.; Ou, S.H.; Wu, F.; Lusis, A.J.; Sparkes, R.S.; Gaynor, R.B.
Proc. Natl. Acad. Sci. U.S.A. 89, 9372-9376, 1992
A;Title: Cloning and chromosomal mapping of a human immunodeficiency virus 1 "TATA" elem
A;Reference number: A47212; MUID:93028466; PMID:1409643
A;Accession: A47212
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: nucleic acid
A;Residues: 1-1093 <GAR>
A;Cross-references: UNIPROT:P82094; UNIPARC:UPI0000137076; GB:L01042; NID:g184097; PIDN:
A;Experimental source: HeLa cells
A;Note: sequence extracted from NCBI backbone (NCBIP:115729)

  Query Match             36.2%;  Score 52.5;  DB 2;  Length 1093;
  Best Local Similarity   50.0%;  Pred. No. 45;
  Matches   13;  Conservative    4;  Mismatches    8;  Indels    1;  Gaps    1;

Qy          2 SSFLSP-EHQRVQQRKESKKPPAKLQ 26
              |:|||| : | :|:     ||||| |
Db         98 SAFLSPTDVQTIQKSPVVSKPPAKSQ 123


RESULT 7
S08343
nodulin precursor - soybean
C;Species: Glycine max (soybean)
C;Date: 29-Jan-1993 #sequence_revision 29-Jan-1993 #text_change 09-Jul-2004
C;Accession: S08343; S08344; A27059
R;Franssen, H.J.; Thompson, D.V.; Idler, K.; Kormelink, R.; van Kammen, A.; Bisseling, T
Plant Mol. Biol. 14, 103-106, 1990
A;Title: Nucleotide sequence of two soybean ENOD2 early nodulin genes encoding Ngm-75.
A;Reference number: S08343; MUID:91322483; PMID:2101308
A;Accession: S08343
A;Molecule type: DNA
```

```
A;Residues: 1-309 <FRA>
A;Cross-references: UNIPROT:P08297; UNIPARC:UPI00001302AA; EMBL:X16875; NID:g18575; PIDN
A;Experimental source: strain Wayne
A;Genetics: CH1
A;Accession: S08344
A;Molecule type: DNA
A;Residues: 1-309 <FRZ>
A;Cross-references: UNIPARC:UPI00001302AA; EMBL:X16876; NID:g18578; PIDN:CAA34759.1; PID
A;Experimental source: strain Wayne
A;Genetics: CH2
R;Franssen, H.J.; Nap, J.P.; Gloudemans, T.; Stiekema, W.; van Dam, H.; Govers, F.; Louw
Proc. Natl. Acad. Sci. U.S.A. 84, 4495-4499, 1987
A;Title: Characterization of cDNA for nodulin-75 of soybean: a gene product involved in
A;Reference number: A94164
A;Accession: A27059
A;Molecule type: mRNA
A;Residues: 69-309 <FRW>
A;Cross-references: UNIPARC:UPI0000177E5A
C;Genetics: <CH1>
A;Gene: ENOD2A
C;Genetics: <CH2>
A;Gene: ENOD2B
C;Superfamily: proline-rich protein 3
C;Keywords: nitrogen fixation; nodulation
F;1-25/Domain: signal sequence #status predicted <SIG>
F;26-309/Product: nodulin #status predicted <MAT>

  Query Match             35.9%;  Score 52;  DB 2;  Length 309;
  Best Local Similarity   42.9%;  Pred. No. 15;
  Matches    9;  Conservative    5;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          7 PEHQRVQQRKESKKPPAKLQP 27
              ||:|  |::   :||| : ||
Db        211 PEYQPPQEKPPHEKPPPEYQP 231


RESULT 8
C42825
Kruppel-type zinc finger protein ZNF69 - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: C42825
R;Aubry, M.; Marineau, C.; Zhang, F.R.; Zahed, L.; Figlewicz, D.; Delattre, O.; Thomas,
Genomics 13, 641-648, 1992
A;Title: Cloning of six new genes with zinc finger motifs mapping to short and long arms
A;Reference number: A42825; MUID:92347859; PMID:1639391
A;Accession: C42825
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: nucleic acid
A;Residues: 1-128 <AUB>
A;Cross-references: UNIPROT:Q9UC07; UNIPARC:UPI000013C418
A;Note: sequence extracted from NCBI backbone (NCBIP:109772)

  Query Match             35.2%;  Score 51;  DB 2;  Length 128;
  Best Local Similarity   36.4%;  Pred. No. 8.2;
  Matches    8;  Conservative    6;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPP 22
              | :|  |:: |: :|  |:| |
Db         65 GKAFTCPQYVRIHERTHSRKKP 86


RESULT 9
W4WL47
E4 protein - human papillomavirus type 47
C;Species: human papillomavirus type 47
A;Note: host Homo sapiens (man)
C;Date: 31-Mar-1991 #sequence_revision 31-Mar-1991 #text_change 09-Jul-2004
C;Accession: E35324
R;Kiyono, T.; Adachi, A.; Ishibashi, M.
Virology 177, 401-405, 1990
A;Title: Genome organization and taxonomic position of human papillomavirus type 47 infe
A;Reference number: A35324; MUID:90281611; PMID:2162112
A;Accession: E35324
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-304 <KIY>
A;Cross-references: UNIPROT:P22421; UNIPARC:UPI0000138386; GB:M32305; NID:g333062; PIDN:
C;Superfamily: papillomavirus type 5 E4 protein
C;Keywords: early protein

  Query Match             35.2%;  Score 51;  DB 1;  Length 304;
  Best Local Similarity   39.1%;  Pred. No. 20;
  Matches    9;  Conservative    6;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          5 LSPEHQRVQQRKESKKPPAKLQP 27
              |:| ||  |: |::: || :  |
Db         79 LAPHHQGHQEDKQTQTPPPRPPP 101


RESULT 10
T00258
hypothetical protein KIAA0606 - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 01-Feb-1999 #sequence_revision 01-Feb-1999 #text_change 09-Jul-2004
C;Accession: T00258
R;Nagase, T.; Ishikawa, K.; Miyajima, N.; Tanaka, A.; Kotani, H.; Nomura, N.; Ohara, O.
DNA Res. 5, 31-39, 1998
A;Title: Prediction of the coding sequences of unidentified human genes. IX. The complet
A;Reference number: Z14086; MUID:98290545; PMID:9628581
A;Accession: T00258
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-858 <NAG>
A;Cross-references: UNIPROT:O60346; UNIPARC:UPI000017C1BA; EMBL:AB011178; NID:g3043735;
A;Experimental source: brain
C;Genetics:
A;Note: KIAA0606

  Query Match             35.2%;  Score 51;  DB 2;  Length 858;
  Best Local Similarity   38.1%;  Pred. No. 56;
  Matches    8;  Conservative    7;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          8 EHQRVQQRKESKKPPAKLQPR 28
              :| : ||:::   || :|||:
Db        820 KHHQEQQQQQQPPPPPQLQPQ 840


RESULT 11
A33378
fasciclin III precursor - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
C;Date: 21-Feb-1990 #sequence_revision 21-Feb-1990 #text_change 09-Jul-2004
C;Accession: A33378
R;Snow, P.M.; Bieber, A.J.; Goodman, C.S.
Cell 59, 313-323, 1989
A;Title: Fasciclin III: a novel homophilic adhesion molecule in Drosophila.
A;Reference number: A33378; MUID:90030406; PMID:2509076
A;Accession: A33378
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-508 <SNO>
A;Cross-references: UNIPROT:P15278; UNIPARC:UPI00000074D4; GB:M27813; NID:g157423; PID:g
C;Genetics:
A;Gene: FlyBase:Fas3
A;Cross-references: FlyBase:FBgn0000636
C;Keywords: phosphoprotein; transmembrane protein

  Query Match             34.5%;  Score 50;  DB 2;  Length 508;
  Best Local Similarity   50.0%;  Pred. No. 45;
  Matches    9;  Conservative    6;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          6 SPEHQRVQQRKESKKPPA 23
              ||: |: ||:|::|: ||
Db        428 SPQEQQQQQQKKAKRLPA 445
```

```
RESULT 12
G01627
androgen receptor 1 - human
N;Alternate names: dihydrotestosterone receptor
C;Species: Homo sapiens (man)
C;Date: 21-Dec-1996 #sequence_revision 06-Jun-1997 #text_change 17-Jul-1998
C;Accession: G01627
R;Bina, M.
submitted to the EMBL Data Library, December 1994
A;Reference number: G07955
A;Accession: G01627
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-716 <BIN>
A;Cross-references: UNIPARC:UPI000017C087; EMBL:U19345; NID:g726041; PID:g726042
C;Genetics:
A;Gene: GDB:AR; DHTR; SBMA
A;Cross-references: GDB:120556; OMIM:313700
A;Map position: Xq11-Xq12

  Query Match             34.5%;  Score 50;  DB 2;  Length 716;
  Best Local Similarity   42.9%;  Pred. No. 64;
  Matches   12;  Conservative    7;  Mismatches    7;  Indels    2;  Gaps    1;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||:   |: :: :||:| :|| |  |||
Db        405 GSADGEPKPKKQRQRRERRKPGA--QPR 430


RESULT 13
T42761
Bassoon protein - rat
N;Alternate names: brain-specific synapse-associated protein
C;Species: Rattus norvegicus (Norway rat)
C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
C;Accession: T42761
R;Dieck, S.; Sanmarti-Vila, L.; Langnaese, K.; Richter, K.; Kindler, S.; Soyke, A.; Wex,
J. Cell Biol. 142, 499-509, 1998
A;Title: Bassoon, a novel zinc-finger CAG/Glutamine-repeat protein selectively localized
A;Reference number: Z22249; MUID:98345363; PMID:9679147
A;Accession: T42761
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-3938 <DIE>
A;Cross-references: UNIPROT:O88778; UNIPARC:UPI00000E7EDE; EMBL:Y16563; NID:g3413503; PI
A;Experimental source: strain Sprague Dawley; brain
C;Function:
A;Description: may be involved in cytomatrix organization at the site of neurotransmitte
A;Note: component of the presynaptic cytoskeleton
C;Keywords: coiled coil; zinc finger

  Query Match             34.1%;  Score 49.5;  DB 2;  Length 3938;
  Best Local Similarity   52.4%;  Pred. No. 4.2e+02;
  Matches   11;  Conservative    3;  Mismatches    6;  Indels    1;  Gaps    1;

Qy          8 EHQRVQQRKE-SKKPPAKLQP 27
              |  | |:|:| || ||: | |
Db       1074 EELRAQRRRERSKTPPSNLSP 1094


RESULT 14
T42730
Bassoon protein - mouse
C;Species: Mus musculus (house mouse)
C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
C;Accession: T42730
R;Dieck, S.; Sanmarti-Vila, L.; Langnaese, K.; Richter, K.; Kindler, S.; Soyke, A.; Wex,
J. Cell Biol. 142, 499-509, 1998
A;Title: Bassoon, a novel zinc-finger CAG/Glutamine-repeat protein selectively localized
A;Reference number: Z22249; MUID:98345363; PMID:9679147
A;Accession: T42730
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-3942 <DIE>
A;Cross-references: UNIPROT:O88737; UNIPARC:UPI0000029B58; EMBL:Y17034; NID:g3413809; PI
A;Experimental source: strain 129 SVJ
C;Genetics:
A;Map position: 9F1
A;Introns: 72/2; 208/3; 505/3; 675/3; 2889/3; 3582/1; 3851/3; 3886/1; 3930/1
A;Note: bassoon
C;Function:
A;Description: may be involved in cytomatrix organization at the site of neurotransmitte
A;Note: component of the presynaptic cytoskeleton
C;Keywords: coiled coil; zinc finger

  Query Match             34.1%;  Score 49.5;  DB 2;  Length 3942;
  Best Local Similarity   52.4%;  Pred. No. 4.2e+02;
  Matches   11;  Conservative    3;  Mismatches    6;  Indels    1;  Gaps    1;

Qy          8 EHQRVQQRKE-SKKPPAKLQP 27
              |  | |:|:| || ||: | |
Db       1089 EELRAQRRRERSKTPPSNLSP 1109


RESULT 15
S45085
hypothetical protein zeta - Streptococcus pyogenes plasmid pDB101 and pBT233
C;Species: Streptococcus pyogenes
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 09-Jul-2004
C;Accession: S45085; S45086; S68606
R;Ceglowski, P.; Boitsov, G.; Lueder, G.; Alonso, J.C.
submitted to the EMBL Data Library, June 1992
A;Reference number: S45072
A;Accession: S45085
A;Molecule type: DNA
A;Residues: 1-287 <CEG>
A;Cross-references: UNIPROT:Q54944; UNIPARC:UPI0000111A22; EMBL:X66468; NID:g496500; PID
A;Experimental source: plasmid pDB101
A;Genetics: G1
A;Accession: S45086
A;Molecule type: DNA
A;Residues: 1-287 <CEW>
A;Cross-references: UNIPARC:UPI0000111A22; EMBL:X66468; NID:g496500; PIDN:CAA47092.1; PI
A;Experimental source: plasmid pDB101
A;Genetics: G2
R;Ceglowski, P.; Boitsov, A.; Chai, S.; Alonso, J.C.
Gene 136, 1-12, 1993
A;Title: Analysis of the stabilization system of pSM19035-derived plasmid pBT233 in Baci
A;Reference number: S68600; MUID:94123985; PMID:8293991
A;Accession: S68606
A;Molecule type: DNA
A;Residues: 1-287 <CEF>
A;Cross-references: UNIPARC:UPI0000111A22; EMBL:X64695; NID:g456362; PIDN:CAA45934.1; PI
A;Experimental source: plasmid pBT233
A;Genetics: G3
C;Genetics: <G1>
A;Gene: zeta
A;Genome: plasmid pDB101
C;Genetics: <G2>
A;Gene: zeta'
A;Genome: plasmid pDB101
C;Genetics: <G3>
A;Gene: zeta
A;Genome: plasmid pBT233

  Query Match             33.8%;  Score 49;  DB 2;  Length 287;
  Best Local Similarity   39.1%;  Pred. No. 35;
  Matches    9;  Conservative    6;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          6 SPEHQRVQQRKESKKPPAKLQPR 28
              :|| : :||: || :||    |:
Db        258 TPEFKAIQQKLESLQPPTPPIPK 280


Search completed: December  3, 2005, 13:24:52
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Job time : 40 secs

GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: December 3, 2005, 13:04:06 ; Search time 185 Seconds
(without alignments)
66.501 Million cell updates/sec

Title: US-10-622-124-31
Perfect score: 145
Sequence: 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 145 | 100.0 | 28 | 4 | AAB60509 | Aab60509 Human ghr |
| 2 | 145 | 100.0 | 28 | 5 | AAE19032 | Aae19032 Human ghr |
| 3 | 145 | 100.0 | 28 | 5 | ABB09532 | Abb09532 Human ghr |
| 4 | 145 | 100.0 | 28 | 6 | ABB80235 | Abb80235 Unacylate |
| 5 | 145 | 100.0 | 28 | 7 | ADF17076 | Adf17076 Human alb |
| 6 | 145 | 100.0 | 28 | 8 | ADF53681 | Adf53681 Human ghr |
| 7 | 145 | 100.0 | 28 | 8 | ADJ67173 | Adj67173 Human ghr |
| 8 | 145 | 100.0 | 28 | 8 | ADL66822 | Adl66822 Human Ghr |
| 9 | 145 | 100.0 | 28 | 8 | ADN12076 | Adn12076 Protein # |
| 10 | 145 | 100.0 | 28 | 8 | ADN03336 | Adn03336 Exemplary |
| 11 | 145 | 100.0 | 28 | 8 | ADR42171 | Adr42171 Ghrelin r |
| 12 | 145 | 100.0 | 28 | 8 | ADU61100 | Adu61100 Human gro |
| 13 | 145 | 100.0 | 28 | 9 | ADV90277 | Adv90277 Protease- |
| 14 | 145 | 100.0 | 28 | 9 | ADX83574 | Adx83574 Human ghr |
| 15 | 145 | 100.0 | 28 | 9 | ADY80098 | Ady80098 Amino aci |
| 16 | 145 | 100.0 | 28 | 9 | ADY72886 | Ady72886 Human ghr |
| 17 | 145 | 100.0 | 28 | 9 | ADZ00357 | Adz00357 Human ghr |
| 18 | 145 | 100.0 | 28 | 9 | ADZ20539 | Adz20539 Ghrelin p |
| 19 | 145 | 100.0 | 28 | 9 | AEA00515 | Aea00515 Human acy |
| 20 | 145 | 100.0 | 28 | 9 | AEA00516 | Aea00516 Human ghr |
| 21 | 145 | 100.0 | 28 | 9 | AEA23453 | Aea23453 Human ghr |
| 22 | 145 | 100.0 | 28 | 9 | AEC21037 | Aec21037 Virus-lik |
| 23 | 145 | 100.0 | 29 | 8 | ADJ67207 | Adj67207 Human ghr |
| 24 | 145 | 100.0 | 29 | 8 | ADJ67205 | Adj67205 Human ghr |
| 25 | 145 | 100.0 | 30 | 8 | ADJ67261 | Adj67261 Ghrelin m |
| 26 | 145 | 100.0 | 60 | 8 | ADK66754 | Adk66754 Human ghr |
| 27 | 145 | 100.0 | 91 | 6 | AAE33410 | Aae33410 Human exo |
| 28 | 145 | 100.0 | 117 | 2 | AAW87991 | Aaw87991 Protein d |
| 29 | 145 | 100.0 | 117 | 3 | AAY87236 | Aay87236 Human sig |
| 30 | 145 | 100.0 | 117 | 4 | AAB20101 | Aab20101 Zsig33 pr |
| 31 | 145 | 100.0 | 117 | 4 | AAB62649 | Aab62649 Human zsi |
| 32 | 145 | 100.0 | 117 | 4 | AAM38890 | Aam38890 Human pol |
| 33 | 145 | 100.0 | 117 | 4 | AAB60511 | Aab60511 Human ghr |
| 34 | 145 | 100.0 | 117 | 5 | ABB78319 | Abb78319 Amino aci |
| 35 | 145 | 100.0 | 117 | 5 | AAE23838 | Aae23838 Human zsi |
| 36 | 145 | 100.0 | 117 | 5 | AAE15883 | Aae15883 Human zsi |
| 37 | 145 | 100.0 | 117 | 6 | ABU58046 | Abu58046 Human PRO |
| 38 | 145 | 100.0 | 117 | 6 | ABU59124 | Abu59124 Novel hum |
| 39 | 145 | 100.0 | 117 | 6 | ABU82636 | Abu82636 Human sec |
| 40 | 145 | 100.0 | 117 | 6 | ABO17836 | Abo17836 Novel hum |
| 41 | 145 | 100.0 | 117 | 6 | ABU60555 | Abu60555 Human sec |
| 42 | 145 | 100.0 | 117 | 6 | ABU13937 | Abu13937 Human PRO |
| 43 | 145 | 100.0 | 117 | 6 | ABU81090 | Abu81090 Human PRO |
| 44 | 145 | 100.0 | 117 | 6 | ABU72522 | Abu72522 Novel hum |
| 45 | 145 | 100.0 | 117 | 6 | ABU66790 | Abu66790 Human PRO |

ALIGNMENTS

RESULT 1
AAB60509
ID AAB60509 standard; peptide; 28 AA.
XX
AC AAB60509;
XX
DT 24-APR-2001 (first entry)
XX
DE Human ghrelin, SEQ ID NO:3.
XX
KW Growth hormone secretagogue; GHS; ghrelin;
KW calcium concentration elevation; infant growth disorder;
KW growth hormone deficiency.
XX
OS Homo sapiens.
XX
PN WO200107475-A1.
XX
PD 01-FEB-2001.
XX
PF 24-JUL-2000; 2000WO-JP004907.
XX
PR 23-JUL-1999; 99JP-00210002.
PR 29-NOV-1999; 99JP-00338841.
PR 26-APR-2000; 2000JP-00126623.
XX
PA (KANG/) KANGAWA K.
XX
PI Kangawa K, Kojima M, Hosoda H, Matsuo H, Minamitake Y;
XX
DR WPI; 2001-159704/16.
XX
PT New peptide compounds which induce growth hormone secretion and elevate
PT cell calcium concentrations, useful in treatment and diagnosis of infant
PT growth disorders.
XX
PS Claim 3; Page 181; 210pp; Japanese.
XX
CC The invention relates to a novel peptide compound or its salt which
CC induces the secretion of growth hormone and/or elevates calcium ion
CC concentration in cells. The peptides are ghrelin homologues and are
CC characterised in that at least one amino acid has been substituted by a
CC modified amino acid and/or a non-amino acid compound. The invention also
CC encompasses the unmodified peptides; the DNA encoding the peptides;
CC vectors and host cells comprising such DNA; a method of producing the
CC peptides comprising recombinant production, optionally followed by
CC chemical modification; an antibody specific for a peptide of the

```
CC   invention; and an assay and kit for detecting the peptides. The peptides
CC   of the invention are useful for treating and/or diagnosing diseases
CC   caused by a deficiency in growth hormone expression or activity. In
CC   particular, they are useful for promoting infant growth due to growth
CC   hormone deficiency. The compounds of the invention are safe with no
CC   accompanying side effects. The present sequence represents a ghrelin-type
CC   growth hormone secretagogue (GHS) of the invention
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 4;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 2
AAE19032
ID   AAE19032 standard; peptide; 28 AA.
XX
AC   AAE19032;
XX
DT   21-MAY-2002  (first entry)
XX
DE   Human ghrelin peptide analogue, compound 6.
XX
KW   Human; ghrelin analogue; growth-hormone secretagogue; GHS receptor; AIDS;
KW   acquired immune deficiency syndrome; weight gain; chemotherapy; dialysis;
KW   growth hormone; muscle mass; bone density; sexual dysfunction; anorexia;
KW   wasting; radiation therapy; obesity; diabetes; retinopathy; hypertension;
KW   cardiovascular disorder; gall stone; osteoarthritis; cancer; cytostatic;
KW   metabolic; immunomodulator; anti-HIV; anorectic; ophthalmological;
KW   cardiant; litholytic; hepatotropic.
XX
OS   Homo sapiens.
XX
PN   WO200192292-A2.
XX
PD   06-DEC-2001.
XX
PF   25-MAY-2001; 2001WO-US017026.
XX
PR   30-MAY-2000; 2000US-0207920P.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Bednarek M;
XX
DR   WPI; 2002-195531/25.
XX
PT   Truncated ghrelin analogs active at growth-hormone secretagogue receptor
PT   useful for diagnosing or treating diseases such as anorexia, bulimia,
PT   cancer, obesity, diabetes mellitus, hypertension, osteoarthritis.
XX
PS   Example 4; Page 34; 37pp; English.
XX
CC   The present invention relates to a truncated ghrelin analogue or their
CC   salt, active at growth-hormone secretagogue (GHS) receptor. Ghrelin
CC   analogue is useful for screening a compound capable of binding to GHS
CC   receptor and for stimulating growth hormone secretion. Ghrelin agonist is
CC   utilised for treating a growth hormone deficient state, increasing muscle
CC   mass and bone density, treating sexual dysfunction in males or females,
CC   facilitating a weight gain, maintenance of weight, maintenance of
CC   physical functioning, recovery of physical function, and/or appetite
CC   increase, or appetite increase is particularly useful for a patient
CC   having a disease or disorder, or under going a treatment, accompanied by
CC   eight loss such as anorexia, bulimia, cancer cachexia, acquired immune
CC   deficiency syndrome (AIDS), wasting, cachexia and wasting in frail
CC   elderly and examples of treatments accompanied by weight loss include
CC   chemotherapy, radiation therapy, temporary or permanent immobilisation
CC   and dialysis; and ghrelin antagonist is utilised to facilitate weight
CC   loss, appetite decrease, weight maintenance, treat obesity, diabetes and
CC   complications of diabetes including retinopathy, and/or cardiovascular
CC   disorders, where excessive weight is a contributing factor to different
CC   diseases including hypertension, diabetes, dyslipidemias, cardiovascular
CC   disease, gall stones, osteoarthritis and certain forms of cancers, and
CC   bringing about a weight loss can be used for e.g. to reduce the
CC   likelihood of such diseases and for treating such diseases. Ghrelin
CC   analogue induces growth hormone release from primary-culture pituitary
CC   cells in a dose-dependent manner without stimulating the release of other
CC   pituitary hormones. Unlike longer length ghrelin, ghrelin analogue can be
CC   synthesised easily and has increased solubility in physiological buffers.
CC   The present sequence is human ghrelin peptide analogue
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 5;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 3
ABB09532
ID   ABB09532 standard; peptide; 28 AA.
XX
AC   ABB09532;
XX
DT   22-OCT-2002  (first entry)
XX
DE   Human ghrelin.
XX
KW   Human; ghrelin; appetite; food intake; agonist; analogue; undernutrition;
KW   anorexia; cachexia; malignant disease; infection; inflammatory disease;
KW   weight loss; antagonist; obesity; anorectic; anabolic.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   3
FT                   /note= "n-octanoyl-Ser"
XX
PN   WO200260472-A1.
XX
PD   08-AUG-2002.
XX
PF   31-JAN-2002; 2002WO-JP000765.
XX
PR   31-JAN-2001; 2001JP-00024423.
XX
PA   (CHUS ) CHUGAI SEIYAKU KK.
XX
PI   Inui A,  Asakawa A,  Kaga T;
XX
DR   WPI; 2002-619206/66.
XX
PT   Remedies for diseases with hypo-nutrition status e.g. inappetence and
PT   cachexia, containing ghrelin or its analogs including agonists and
PT   antagonists.
XX
PS   Disclosure; Fig 1A; 50pp; Japanese.
XX
CC   The invention relates to the use of ghrelin or its analogues for the
CC   treatment of diseases associated with undernutrition such as anorexia,
CC   and also relates to the use of ghrelin antagonists for the prevention or
CC   treatment of obesity. The invention additionally discloses a method for
CC   screening ghrelin agonists or antagonists by measuring the amount of food
CC   intake, neuropeptide Y (NPY) expression, binding of NPY to NPY receptor
CC   Y1, oxygen consumption, gastric emptying, or activity of the vagus nerve.
CC   Intracerebroventricular (ICV) administration of ghrelin in animals was
```

CC found to increase food intake over a period of 24 hours. Ghrelin and its
CC analogues may therefore be used to treat conditions such as loss of
CC appetite, anorexia, cachexia, malignant diseases, and weight loss
CC associated with infection or inflammatory diseases. Conversely, ghrelin
CC antagonists may be used in the treatment of obesity. The present sequence
CC represents human ghrelin which is referred to in the disclosure of the
CC invention
XX
SQ Sequence 28 AA;

Query Match 100.0%; Score 145; DB 5; Length 28;
Best Local Similarity 100.0%; Pred. No. 2.2e-12;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
||||||||||||||||||||||||||||
Db 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

RESULT 4
ABB80235
ID ABB80235 standard; peptide; 28 AA.
XX
AC ABB80235;
XX
DT 20-NOV-2003 (first entry)
XX
DE Unacylated ghrelin.
XX
KW Unacylated; ghrelin; post-prandial induction; insulin resistance;
KW dawn phenomenon; type I; diabetes; body weight; type II; syndrome X;
KW fat mass; growth hormone deficiency; high body mass index; catabolism.
XX
OS Homo sapiens.
XX
PN WO2003051389-A2.
XX
PD 26-JUN-2003.
XX
PF 18-DEC-2002; 2002WO-CA001964.
XX
PR 18-DEC-2001; 2001CA-02365704.
XX
PA (THER-) THERATECHNOLOGIES INC.
XX
PI Ghigo E, Van Der Lely AJ;
XX
DR WPI; 2003-569115/53.
XX
PT Composition for preventing and/or reducing post-prandial induction of
PT insulin resistance, preventing and/or reducing dawn phenomenon in type I
PT diabetes patient, comprising unacylated ghrelin, or its analog or salt.
XX
PS Claim 2; Page 13; 26pp; English.
XX
CC This sequence represents unacylated ghrelin which may be used in the
CC composition of the invention for preventing and/or reducing post-prandial
CC induction of insulin resistance. The composition is useful for reducing
CC post-prandial induction of insulin resistance, preventing and/or reducing
CC dawn phenomenon in type I diabetes patient, reducing body weight
CC increased in a patient suffering from at least one of type II diabetes
CC and syndrome X, facilitating treatment of a insulin resistant patient,
CC decreasing fat mass in a growth hormone deficient patient or in an aging
CC patient having a high body mass index, or preventing and/or reducing
CC insulin resistance in a patient in severe catabolism. Ghrelin is also
CC useful for preparing a medicament for providing the above mentioned
CC effects
XX
SQ Sequence 28 AA;

Query Match 100.0%; Score 145; DB 6; Length 28;
Best Local Similarity 100.0%; Pred. No. 2.2e-12;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
||||||||||||||||||||||||||||
Db 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

RESULT 5
ADF17076
ID ADF17076 standard; protein; 28 AA.
XX
AC ADF17076;
XX
DT 12-FEB-2004 (first entry)
XX
DE Human albumin fusion protein-related protein SeqID2216.
XX
KW albumin fusion protein; albumin activity; human serum albumin;
KW serum osmotic pressure; shelf-life; stability; antidiabetic;
KW gene therapy; diabetes mellitus; human.
XX
OS Homo sapiens.
XX
PN WO2003060071-A2.
XX
PD 24-JUL-2003.
XX
PF 23-DEC-2002; 2002WO-US040891.
XX
PR 21-DEC-2001; 2001US-0341811P.
PR 24-JAN-2002; 2002US-0350358P.
PR 28-JAN-2002; 2002US-0351360P.
PR 26-FEB-2002; 2002US-0359370P.
PR 28-FEB-2002; 2002US-0360000P.
PR 27-MAR-2002; 2002US-0367500P.
PR 08-APR-2002; 2002US-0370227P.
PR 10-MAY-2002; 2002US-0378950P.
PR 24-MAY-2002; 2002US-0382617P.
PR 28-MAY-2002; 2002US-0383123P.
PR 05-JUN-2002; 2002US-0385708P.
PR 10-JUL-2002; 2002US-0394625P.
PR 24-JUL-2002; 2002US-0398008P.
PR 09-AUG-2002; 2002US-0402131P.
PR 13-AUG-2002; 2002US-0402708P.
PR 18-SEP-2002; 2002US-0411355P.
PR 18-SEP-2002; 2002US-0411426P.
PR 02-OCT-2002; 2002US-0414984P.
PR 11-OCT-2002; 2002US-0417611P.
PR 23-OCT-2002; 2002US-0420246P.
PR 05-NOV-2002; 2002US-0423623P.
XX
PA (HUMA-) HUMAN GENOME SCI INC.
PA (DELZ ) DELTA BIOTECHNOLOGY LTD.
PA (PRIN-) PRINCIPIA PHARM CORP.
XX
PI Ballance DJ, Turner AJ, Rosen CA, Haseltine WA;
XX
DR WPI; 2003-598517/56.
XX
PT New albumin fusion protein, useful for preparing a composition for
PT treating diabetes mellitus.
XX
PS Example 4; SEQ ID NO 2216; 24pp; English.
XX
CC This invention relates to a novel albumin fusion protein having albumin
CC or biological activity. Human serum albumin is responsible for a
CC significant proportion of the osmotic pressure of serum and also
CC functions as a carrier of endogenous and exogenous ligands. The fusion of
CC albumin to a therapeutic protein may increase shelf-life and stability of
CC the therapeutic protein. The albumin fusion protein of the invention may
CC allow production of compositions with antidiabetic activity whilst the
CC nucleotide sequence which encodes it may be useful for gene therapy. The
CC albumin fusion protein is useful for preparing a composition for treating
CC diabetes mellitus. The present sequence is that of a therapeutic protein

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CC   which was fused with human albumin to create a novel albumin fusion
CC   protein of the invention. Note: The sequence data for this patent did not
CC   form part of the printed specification, but was obtained in electronic
CC   format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 7;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 6
ADF53681
ID   ADF53681 standard; peptide; 28 AA.
XX
AC   ADF53681;
XX
DT   12-FEB-2004  (first entry)
XX
DE   Human ghrelin-related peptide - SEQ ID 1.
XX
KW   ghrelin; growth hormone secretion promoter receptor; GHS; GHS-R;
KW   endocrine; vulnerary; immunostimulant; muscular; dermatological;
KW   anabolic; dwarfism; myoblast; bone regeneration; burn; gonadotrophin;
KW   ovulation; prednisone treatment; immune deficiency; weight reduction;
KW   fatty tissue; skin atrophy; human.
XX
OS   Homo sapiens.
XX
PN   WO2003097083-A1.
XX
PD   27-NOV-2003.
XX
PF   21-MAY-2003; 2003WO-JP006349.
XX
PR   21-MAY-2002; 2002JP-00146155.
XX
PA   (SUNR ) DAIICHI SUNTORY PHARMA CO LTD.
PA   (KANG/) KANGAWA K.
XX
PI   Minamitake Y,  Matsumoto M;
XX
DR   WPI; 2004-012483/01.
XX
PT   Aqueous composition of ghrelin at neutral to acid pH for improved
PT   stability, for treating growth hormone deficiency and related conditions.
XX
PS   Example 1; SEQ ID NO 1; 58pp; Japanese.
XX
CC   The invention relates to a novel aqueous pharmaceutical composition
CC   comprising a ghrelin which is an endogenous growth hormone secretion
CC   promoter (GHS) to a growth hormone secretion promoter receptor (GHS-R),
CC   in a solution of pH 2-7. The composition of the invention demonstrates
CC   endocrine, vulnerary, immunostimulant, muscular, dermatological and
CC   anabolic activities and may be useful for treating dwarfism, increasing
CC   muscle amount and strength in growth hormone deficiency, activating
CC   myoblasts and bone regeneration in normal individuals, treating serious
CC   burns in children and accompanying gonadotrophin in induction of
CC   ovulation. Furthermore, the composition may be used to prevent protein
CC   metabolic anomaly during prednisone treatment, to enhance T cells in
CC   immune deficiency and to suppress weight reduction, fatty tissue spread
CC   and skin atrophy in old age. The current sequence is that of the ghrelin-
CC   related peptide of the invention.
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 8;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 7
ADJ67173
ID   ADJ67173 standard; peptide; 28 AA.
XX
AC   ADJ67173;
XX
DT   06-MAY-2004  (first entry)
XX
DE   Human ghrelin peptide antigen #1.
XX
KW   anorectic; core particle; antigenic determinant; ghrelin; P-pilin;
KW   antigenic array.
XX
OS   Homo sapiens.
XX
PN   WO2004009124-A2.
XX
PD   29-JAN-2004.
XX
PF   18-JUL-2003; 2003WO-EP007849.
XX
PR   19-JUL-2002; 2002US-0396638P.
XX
PA   (CYTO-) CYTOS BIOTECHNOLOGY AG.
XX
PI   Bachmann MF,  Fulurija A;
XX
DR   WPI; 2004-132866/13.
XX
PT   New composition comprising a core particle having a first attachment site
PT   and an antigen or antigenic determinant which is a ghrelin or ghrelin
PT   peptide having a second attachment site, useful for treating obesity.
XX
PS   Claim 25; SEQ ID NO 31; 175pp; English.
XX
CC   The invention relates to a new composition comprising: (i) a core
CC   particle with at least one first attachment site; and (ii) at least one
CC   antigen or antigenic determinant with at least one second attachment
CC   site, where the antigen or antigenic determinant is ghrelin or a ghrelin
CC   peptide, and where the second attachment site being consisting of an
CC   attachment site not naturally occurring with the antigen or antigenic
CC   determinant and an attachment site naturally occurring with the antigen
CC   or antigenic determinant, where the second attachment site is capable of
CC   association to the first attachment site, and where the ghrelin or a
CC   ghrelin peptide and the core particle interact through the association to
CC   form an ordered and repetitive antigen array. The composition is useful
CC   for treating obesity. The repetitive array may form part of a phage or
CC   bacterial display array. This peptide corresponds to a ghrelin peptide of
CC   the invention.
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 8;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 8
ADL66822
ID   ADL66822 standard; peptide; 28 AA.
XX
AC   ADL66822;
```

```
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human Ghrelin-related growth hormone secretagogue peptide 1.
XX
KW   drug; Ghrelin; growth hormone secretagogue; human.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   3
FT                   /label= OTHER
FT                   /note= "OTHER = n-octanoyl residue"
XX
PN   WO2003084983-A1.
XX
PD   16-OCT-2003.
XX
PF   10-APR-2003; 2003WO-JP004590.
XX
PR   11-APR-2002; 2002JP-00109761.
XX
PA   (DAII-) DAIICHI SUNTORY PHARMA CO LTD.
PA   (KANG/) KANGAWA K.
XX
PI   Minamitake Y,  Matsumoto M,  Makino T;
XX
DR   WPI; 2004-098839/10.
XX
PT   Producing modified peptides or proteins with physiological activity
PT   comprises fusing side chain-modified peptide fragments obtained by solid-
PT   phase synthesis and non-modified peptides by genetic modification.
XX
PS   Disclosure; SEQ ID NO 1; 120pp; Japanese.
XX
CC   The invention relates to a novel method for producing protected or
CC   modified peptide fragments containing desired sequences of amino acids
CC   and/or non-amino acids, at least one of which is suitably protected for
CC   preparing the peptide fragment with use of a weakly acidic-eliminating
CC   resin to enable cleavage from the resin under weakly acidic conditions.
CC   The method of the invention may be used for producing modified peptide
CC   fragments or proteins and producing protected peptide fragments that do
CC   not contain any modified (non-)amino acids for application as drugs. The
CC   current sequence is that of a Ghrelin-related growth hormone secretagogue
CC   peptide of the invention.
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 8;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 9
ADN12076
ID   ADN12076 standard; protein; 28 AA.
XX
AC   ADN12076;
XX
DT   17-JUN-2004  (first entry)
XX
DE   Protein #1 associated with growth hormone secretagogue receptor.
XX
KW   diabetes; growth hormone secretagogue receptor; GHS-R; Antidiabetic;
KW   Anorectic; obesity; blood sugar level; appetite.
XX
OS   Homo sapiens.
XX
PN   WO2004004772-A1.
XX
PD   15-JAN-2004.
XX
PF   03-JUL-2003; 2003WO-JP008482.
XX
PR   05-JUL-2002; 2002JP-00197582.
XX
PA   (CHUS ) CHUGAI SEIYAKU KK.
XX
PI   Inui A,  Asakawa A;
XX
DR   WPI; 2004-099347/10.
XX
PT   Growth hormone secretagogue receptor antagonist for treatment of
PT   diabetes, obesity and appetite control.
XX
PS   Disclosure; SEQ ID NO 1; 44pp; Japanese.
XX
CC   The present invention relates to a treatment and preventative agent for
CC   diabetes comprises growth hormone secretagogue receptor (GHS-R)
CC   antagonist. For treatment and prevention of diabetes, obesity, for
CC   lowering blood sugar levels and for use in controlling appetite. The
CC   present sequence represents a protein associated with growth hormone
CC   secretagogue receptor.
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 8;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 10
ADN03336
ID   ADN03336 standard; peptide; 28 AA.
XX
AC   ADN03336;
XX
DT   17-JUN-2004  (first entry)
XX
DE   Exemplary peptide ligand for proteome analysis  #62.
XX
KW   Peptide ligand; proteome; capture compound; mass spectrometry;
KW   protein separation;
KW   matrix assisted laser desorption ionisation-time of flight; MALDI-TOF.
XX
OS   Unidentified.
XX
PN   US2003119021-A1.
XX
PD   26-JUN-2003.
XX
PF   16-JUL-2002; 2002US-00197954.
XX
PR   16-JUL-2001; 2001US-0306019P.
PR   21-AUG-2001; 2001US-0314123P.
PR   11-MAR-2002; 2002US-0363433P.
XX
PA   (KOST/) KOSTER H.
PA   (SIDD/) SIDDIQI S.
PA   (LITT/) LITTLE D P.
XX
PI   Koster H,  Siddiqi S,  Little DP;
XX
DR   WPI; 2004-059185/06.
XX
PT   Collection of capture compounds capable of binding to biomolecules to
PT   form complexes that are stable under mass spectrometry conditions, useful
PT   for analysis of biomolecules, especially proteins.
```

XX
PS Disclosure; SEQ ID NO 62; 165pp; English.
XX
CC The invention relates to a collection of capture compounds capable of
CC binding to biomolecules to form complexes that are stable under mass
CC spectrometry conditions. The formulae for the capture compounds comprises
CC sets of compounds of formula (I)-(III) given in the specification. Also
CC included are analysis of biomolecules (by contacting a composition
CC comprising a biomolecule with the above collection and identifying or
CC detecting bound biomolecules), separating protein conformers (by
CC contacting a composition comprising a biomolecule with the above
CC collection, separating the members of the collection and identifying
CC bound proteins), reducing diversity of a complex mixture of biomolecules
CC (by contacting the mixture with the above collection and separating each
CC set of complexes of capture compounds with biomolecules from the other
CC sets) and identifying phenotype-specific biomolecules (by sorting cells
CC from a single subject into sets according to a phenotype, contacting
CC mixtures of biomolecules from each set with the above collection and
CC comparing the patterns of biomolecule binding from each set). The
CC collection of capture compounds is useful for the analysis of
CC biomolecules, especially proteins (e.g. analysis of a proteome), using
CC mass spectrometry, especially matrix assisted laser desorption ionisation
CC -time of flight (MALDI-TOF) mass spectrometry. The present sequence is an
CC exemplary peptide ligand which may be incorporated into a capture
CC compound of the invention.
XX
SQ Sequence 28 AA;

Query Match 100.0%; Score 145; DB 8; Length 28;
Best Local Similarity 100.0%; Pred. No. 2.2e-12;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
||||||||||||||||||||||||||||
Db 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

RESULT 11
ADR42171
ID ADR42171 standard; peptide; 28 AA.
XX
AC ADR42171;
XX
DT 21-OCT-2004 (first entry)
XX
DE Ghrelin related peptide ligand, SEQ ID 62.
XX
KW Human; ligand; Ghrelin.
XX
OS Homo sapiens.
XX
PN WO2004064972-A2.
XX
PD 05-AUG-2004.
XX
PF 16-JAN-2004; 2004WO-US001037.
XX
PR 16-JAN-2003; 2003US-0441398P.
XX
PA (HKPH-) HK PHARM INC.
PA (KOES/) KOESTER H.
XX
PI Koester H, Little DP, Siddiqi SM, Grealish MP, Marappan S;
PI Hassman CF, Yip P;
XX
DR WPI; 2004-642213/62.
XX
PT Identifying drug non-target biomolecules in mixture of biomolecules
PT involves interacting mixture of biomolecules with capture compounds
PT having high binding affinity and analyzing captured biomolecules to
PT identify drug non-targets.
XX
PS Disclosure; SEQ ID NO 62; 368pp; English.
XX
CC The present invention relates to a method for identifying drug non-target
CC biomolecules in a mixture of biomolecules. The method comprises
CC interacting mixture with capture compounds having moiety X which
CC covalently binds to biomolecules with high affinity, moiety Y that
CC increases selectivity of binding so that the capture compound binds to
CC fewer biomolecules, and moiety Z for presenting X and Y, and analysing
CC captured biomolecules to identify drug non-targets. The capture compound
CC also optionally comprises a sorting function moiety Q and or a solubility
CC function moiety W. The selectivity function moiety Y serves to modulate
CC the reactivity function by reducing the number of groups to which the
CC reactivity function moiety X bind, such as by steric hindrance and other
CC interactions. Y is optionally a peptide ligand (ADR42112-ADR42256).
XX
SQ Sequence 28 AA;

Query Match 100.0%; Score 145; DB 8; Length 28;
Best Local Similarity 100.0%; Pred. No. 2.2e-12;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
||||||||||||||||||||||||||||
Db 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

RESULT 12
ADU61100
ID ADU61100 standard; peptide; 28 AA.
XX
AC ADU61100;
XX
DT 27-JAN-2005 (first entry)
XX
DE Human growth hormone secretagogue #1.
XX
KW growth hormone ; secretagogue ; hepatopathy ; intracellular ;
KW calcium ion; concentration ; growth hormone ;
KW secretion inducer receptor; GHS-R; hepatitis; liver cirrhosis;
KW liver failure; viral hepatitis; alcoholic hepatitis;
KW drug induced hepatitis; autoimmune hepatitis; recover; liver function ;
KW liver transplantation.
XX
OS Homo sapiens.
XX
PN WO2004096260-A1.
XX
PD 11-NOV-2004.
XX
PF 30-APR-2004; 2004WO-JP006365.
XX
PR 30-APR-2003; 2003JP-00126088.
XX
PA (KANG/) KANGAWA K.
XX
PI Kangawa K, Hosoda H;
XX
DR WPI; 2004-813823/80.
XX
PT Preventive or therapeutic agent of hepatopathy such as hepatitis or liver
PT cirrhosis, comprises polypeptide having activity that raises
PT intracellular calcium ion concentration by binding with growth hormone
PT secretion inducer receptor.
XX
PS Claim 1; SEQ ID NO 1; 107pp; Japanese.
XX
CC This sequence represents a growth hormone secretagogue which was used in
CC the preventive or therapeutic agent of hepatopathy of the invention. The
CC therapeutic agent has activity which raises intracellular calcium ion
CC concentration by binding with growth hormone secretion inducer receptor
CC (GHS-R) and comprises a polypeptide which raises the intracellular
CC calcium ion concentration by binding with GHS-R or its salt as an active
CC ingredient. The therapeutic agent of the invention is useful for
CC preventing or treating hepatopathy such as hepatitis, liver cirrhosis,

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CC   and liver failure, hepatitis such as viral hepatitis, alcoholic
CC   hepatitis, drug induced hepatitis and autoimmune hepatitis, and for
CC   recovering the liver function after liver transplantation, in a mammal
CC   such as human. The method of treatment involves administering the agent
CC   to the mammal.
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 8;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 13
ADV90277
ID   ADV90277 standard; peptide; 28 AA.
XX
AC   ADV90277;
XX
DT   10-MAR-2005  (first entry)
XX
DE   Protease-hydrolysed polypeptide #54.
XX
KW   Protease; immune disorder; inflammation; musculoskeletal disease;
KW   dermatological disease; gastrointestinal disease; endocrine disease;
KW   metabolic disorder; cancer; hematological disease;
KW   cardiovascular disease; neurological disease; neurodegenerative disease;
KW   growth disorder; respiratory disease; genitourinary disease;
KW   gynecological disorder; nutritional disorder; infection; cytostatic;
KW   gastrointestinal-gen.; antiinflammatory; antiasthmatic; analgesic;
KW   antiarthritic; osteopathic; antidiabetic; nephrotropic;
KW   cardiovascular-gen.; immunosuppressive; respiratory-gen.; antipsoriatic;
KW   antiallergic; dermatological; enzyme; hydrolysis.
XX
OS   Homo sapiens.
XX
PN   WO2004113522-A1.
XX
PD   29-DEC-2004.
XX
PF   18-JUN-2004; 2004WO-EP051173.
XX
PR   18-JUN-2003; 2003EP-00013819.
PR   10-NOV-2003; 2003EP-00025851.
PR   11-NOV-2003; 2003EP-00025871.
PR   11-FEB-2004; 2004EP-00003058.
XX
PA   (DIRE-) DIREVO BIOTECH AG.
XX
PI   Haupts U,  Koltermann A,  Scheidig A,  Voetsmeier C,  Kettling U;
XX
DR   WPI; 2005-057985/06.
XX
PT   Proteases with defined specificity for a target substrate useful for
PT   treating a specific disease related to the target substrate, such as
PT   cancer, asthma, diabetes, inflammatory disorders and psoriasis.
XX
PS   Claim 34; SEQ ID NO 107; 250pp; English.
XX
CC   The invention relates to the use of a protease with defined specificity
CC   for a target substrate for preparing a medicament for the treatment of a
CC   specific disease related to the target substrate. The invention also
CC   relates to a pharmaceutical or diagnostic composition comprising one or
CC   more enzymes in the use cited, optionally comprising pharmaceutically or
CC   diagnostically acceptable carriers, excipients and/or auxiliary agents, a
CC   method for cleaving a target substrate in vivo or in vitro comprising
CC   contacting the target substrate with a protease as cited in the use
CC   mentioned, and a method for treatment of a disease in a patient connected
CC   with a specific target substrate comprising administering to the patient
CC   a protease with defined specificity for the specific target substrate.
CC   The protease hydrolyzes the target substrate and eliminates or reduces
CC   one or more biological activities, physico-chemical properties or
CC   pharmacological properties of the target protein and/or activates or
CC   increases one or more biological activities, physico-chemical properties
CC   or pharmacological properties of the target protein, and/or adds one or
CC   more biological activities, physico-chemical properties or
CC   pharmacological properties to the target protein. The protease may be
CC   administered to treat immune disorders, inflammatory disorders,
CC   musculoskeletal diseases, dermatological diseases, gastrointestinal
CC   diseases, endocrine diseases, metabolic disorder, cancers, hematological
CC   diseases, cardiovascular diseases, neurological diseases,
CC   neurodegenerative diseases, growth disorders, respiratory diseases,
CC   genitourinary diseases, gynecological disorders, nutritional disorders
CC   and infections. This sequence represents a polypeptide hydrolysed by a
CC   protease used in the scope of the invention.
XX
SQ   Sequence 28 AA;

  Query Match             100.0%;  Score 145;  DB 9;  Length 28;
  Best Local Similarity   100.0%;  Pred. No. 2.2e-12;
  Matches   28;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
              ||||||||||||||||||||||||||||
Db          1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28


RESULT 14
ADX83574
ID   ADX83574 standard; peptide; 28 AA.
XX
AC   ADX83574;
XX
DT   05-MAY-2005  (first entry)
XX
DE   Human ghrelin-like compound SEQ ID NO 1.
XX
KW   anabolic; cytostatic; appetite stimulant; pharmeceutical; secretagogue;
KW   anabolic; nutritional disorder; cachexia; cancer; cytostatic; neoplasm;
KW   respiratory disease; gastrointestinal disease; lung tumor;
KW   pancreas tumor; liver tumor; gastrointestinal tumor;
KW   ghrelin-like compound.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   3
FT                   /label= OTHER
FT                   /note= "OTHER= Fatty acid C7H15"
XX
PN   WO2005014032-A2.
XX
PD   17-FEB-2005.
XX
PF   06-AUG-2004; 2004WO-DK000529.
XX
PR   06-AUG-2003; 2003DK-00001139.
PR   06-AUG-2003; 2003DK-00001140.
PR   14-AUG-2003; 2003US-0494815P.
PR   14-AUG-2003; 2003US-0494816P.
PR   05-SEP-2003; 2003DK-00001283.
PR   24-OCT-2003; 2003DK-00001569.
PR   24-OCT-2003; 2003DK-00001570.
PR   07-APR-2004; 2004DK-00000570.
XX
PA   (GAST-) GASTROTECH PHARMA AS.
XX
PI   Lange BH,  Hansen C,  Nilsson H;
XX
DR   WPI; 2005-202317/21.
XX
```

PT Use of secretagogue compound for preparation of medicament for
PT prophylaxis or treatment of cancer cachexia in individual in need of such
PT treatment.
XX
PS Example 2; SEQ ID NO 1; 148pp; English.
XX
CC The invention describes the use of a secretagogue compound (C1) for the
CC preparation of a medicament for the prophylaxis or treatment of cancer
CC cachexia in an individual in need of such treatment. Also described are:
CC a ghrelin-like compound of formula (I) as mentioned above; a
CC pharmaceutical composition (PC) comprising the ghrelin-like compound as
CC described above, or its salt, and carriers, vehicles and/or excipients; a
CC medical packaging (MP) comprising one or more dosage units of PC;
CC monitoring the effect of a treatment of an individual with C1, involving
CC measuring the blood level in the individual of IGF-1 (insulin like growth
CC factor 1), IGFBP-3 (insulin-like growth factor binding protein 3) and/or
CC ALS (Acetolactate synthase); and preventing or treating cachexia,
CC involves administering to an individual, C1 and an effective amount of a
CC NSAID medicament. C1 is useful in the preparation of a medicament for
CC prophylaxis or treatment of cancer cachexia in an individual in need of
CC treatment. The cancer cachexia is caused by a catabolic disorder or
CC anorectic disorder. The individual is suffering from a cancer chosen from
CC lung cancer, pancreatic cancer, liver cancer and gastrointestinal tract
CC cancers. C1 is useful in treating or preventing cancer cachexia that
CC leads to stimulation of appetite, stimulation of food intake, stimulation
CC of weight gain or weight maintenance, and/or increased body fat mass. C1
CC is useful in preventing or treating cancer cachexia, which involves
CC administering C1 to an individual. C1 is useful for preventing or
CC treating cancer, which involves administering C1 to an individual, in
CC combination with an anti-neoplastic treatment. The antineoplastic
CC treatment is radiotherapy or chemotherapy. This is the amino acid
CC sequence of a human ghrelin-like compound.
XX
SQ Sequence 28 AA;

Query Match 100.0%; Score 145; DB 9; Length 28;
Best Local Similarity 100.0%; Pred. No. 2.2e-12;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
||||||||||||||||||||||||||||
Db 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

RESULT 15
ADY80098
ID ADY80098 standard; peptide; 28 AA.
XX
AC ADY80098;
XX
DT 02-JUN-2005 (first entry)
XX
DE Amino acid sequence of human ghrelin.
XX
KW ghrelin; eating-disorders-gen.; psychiatric disorder; antidiabetic;
KW anorectic; genetic disorder; nutritional disorder;
KW gastrointestinal disease; cardiovascular-gen.; anxiety disorder; obesity;
KW non-insulin dependent diabetes mellitus; Prader-Willi syndrome;
KW eating disorder; hyperphagia; gastric motility disorder; cancer;
KW neoplasm; cytostatic; cardiovascular disease; nootropic;
KW antibody therapy.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Misc-difference 28
FT /note= "optionally absent"
XX
PN WO2005026211-A2.
XX
PD 24-MAR-2005.
XX
PF 02-SEP-2004; 2004WO-US025604.
XX
PR 05-SEP-2003; 2003US-0500496P.
PR 18-MAY-2004; 2004US-0572249P.
PR 23-JUN-2004; 2004US-0582111P.
XX
PA (ELIL ) LILLY & CO ELI.
XX
PI Heiman ML, Kikly KK, Manetta JV, Witcher DR;
XX
DR WPI; 2005-233485/24.
XX
PT New anti-human ghrelin (hGhrelin) monoclonal antibody, useful for
PT treating or preventing obesity or a related disorder e.g., non-insulin
PT dependent diabetes mellitus, Prader-Willi syndrome, eating disorders, and
PT anxiety.
XX
PS Disclosure; SEQ ID NO 19; 88pp; English.
XX
CC The specification describes a monoclonal antibody that specifically binds
CC human ghrelin at an epitope localized to amino acids 4-20. The
CC complementarity determining regions (CDRs) of such antibodies are used to
CC construct chimeric or humanized antibodies. Pharmaceutical compositions
CC comprising the antibody of the invention are useful for treating or
CC preventing obesity, or a related disorder such as non-insulin dependent
CC diabetes mellitus, Prader-Willi syndrome, eating disorders, hyperphagia,
CC impaired satiety, anxiety, gastric motility disorders, cancer and
CC cardiovascular disorders. The present sequence represents human ghrelin.
XX
SQ Sequence 28 AA;

Query Match 100.0%; Score 145; DB 9; Length 28;
Best Local Similarity 100.0%; Pred. No. 2.2e-12;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28
||||||||||||||||||||||||||||
Db 1 GSSFLSPEHQRVQQRKESKKPPAKLQPR 28

Search completed: December 3, 2005, 13:20:10
Job time : 188 secs